Yachting

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ELCO EXPRESS

You will never know Motor Boat perfection till you see and ride in an

ELCO GASOLINE EXPRESS LAUNCH

The smoothness of its operation—its indescribable power—perfect ease of control and absolute seaworthiness are combined with a beauty of grace and finish never approached in any other boat. The thousands who have seen them all over the country and at the Motor Boat Shows enthusiastically pronounce them to be "without equal."

Not "racing machines" but luxuriously comfortable launches, remarkable for their safety, reliability and speed.

All the exhilaration of motoring,
With none of the dirt or dust;
All the thrills of speed,
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26 ft. 40 H. P. 4 cylinder engine. Speed 18 miles guaranteed or no sale.
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Elco Motor Boats comprise every type of pleasure craft from Cruiser to Launch, both gasoline and electric.

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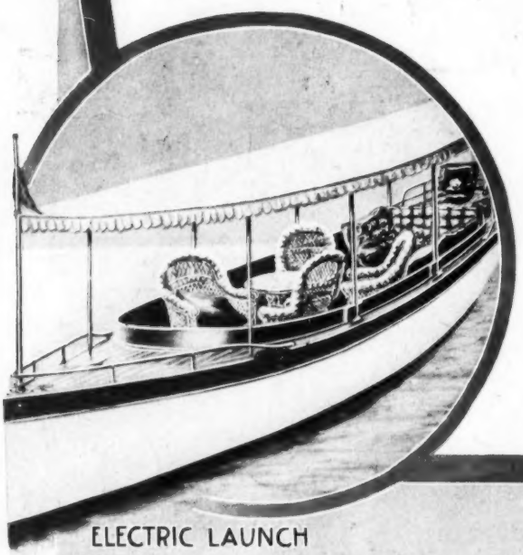

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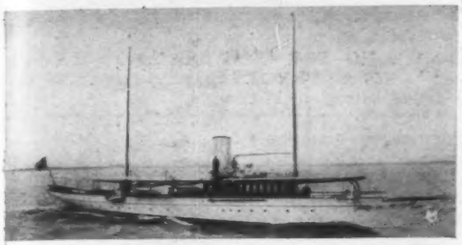
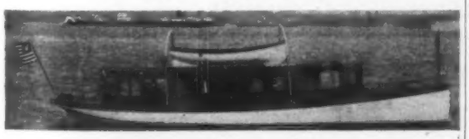


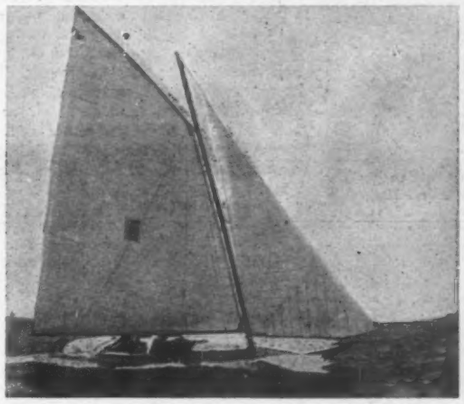
NO. 365—FOR SALE—at small fraction of cost, 163 ft. steel steam yacht. Speed up to 16 knots. Handsomely furnished and one of the most attractive yachts of her size. Dining room, smoking room, main cabin, five staterooms and two bath rooms Located New York. Gielow & Orr, 52 Broadway, New York.

NO. 1035—Great bargain, or will charter, owner having just purchased large steam yacht—Modern, flush deck, steel auxiliary schooner. 110 ft. overall. Built 1902. Large main cabin, 3 staterooms, bath room, 3 toilets, 75 horsepower engine, wireless plant, etc. Splendid sea boat. Gielow & Orr, 52 Broadway, New York.



NO. 1777—FOR SALE—Cabin cruiser, 42x 9.6x3 ft. Built by Seabury. Mahogany finish throughout. Accommodations for four to six, toilet, etc. 15 h. p. 3-cylinder 20th Century motor; speed 10 miles. Excellent cruising equipment. Owner anxious to sell. Delivered in commission. Apply to Gielow & Orr, 52 B'way, N.Y.

NO. 1285—FOR SALE CHEAP — 57 ft. overall motor yacht, 44 ft. water line, 12 ft. 2 in. beam, 3 ft. 6 in. draught. Built 1902. Cabin trunk with deck each side and roomy after deck. Oak and yellow pine, copper fastened. Main cabin 18 ft. 6 in. long inside; full headroom. Has two Pullman berths and two extension transoms, two toilets. Crew's quarters in engine room, large galley aft of saloon. Interior finish mahogany. Speed about 9 miles; 25 horsepower "Standard" engine. Gasoline capacity about 200 gallons, tank in forepeak. Metal deck fittings are brass. Prompt sale greatly desired and low figure will be accepted. Located in Connecticut about 35 miles from New York. Make offer through Gielow & Orr, 52 Broadway, New York.



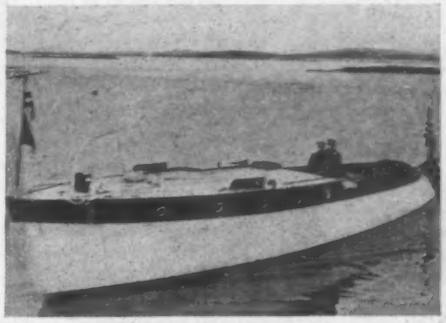
NO. 1964—BARGAIN—Well known Class "Q" racing sloop; 36.1x24.10x7.6x5.10. Built 1906 by Wood in very best manner from designs by Crane. Two suits of sails, one by Ratsey. Has excellent racing record. In best of condition. Apply to Gielow & Orr, 52 B'way, N. Y.

NO. 2445—BARGAIN—Hunting cabin Launch; 36.6x7.6x2.6 ft. Large cockpit 12.6 ft. long. Built 1908 by well known firm in best manner. Mahogany finish throughout. 15 h. p. 20th Century motor. Apply to Gielow & Orr, 52 Broadway, New York.

NO. 100—Will sell at genuine sacrifice—96 ft. overall, flush deck, auxiliary centreboard schooner yacht; 21 ft. 6 ins. beam, 9 ins. draught. Strongly built. Roomy accommodations; large main saloon and six staterooms. Fifty horsepower engine. Laid up in Massachusetts. Gielow & Orr, 52 Broadway, New York.

NO. 3002—Very able and attractive keel auxiliary yawl. 46.5x32x 13x6 ft. Built 1903. All lead ballast. Mahogony finish. Double stateroom, saloon and two toilets. Two suits of sails. 7½ h. p. motor; speed 6 miles. Details from Gielow & Orr, 52 Broadway, New York.

NO. 1104—Combination express type and cruising twin-screw steam yacht for sale at attractive figure, as owner cannot use. 138 ft. overall, 127 ft. waterline, 16 ft. beam, 5 ft. 6 in. draught. Speed up to 16 to 16½ knots. Built 1903. Roomy accommodations, finished in red and white mahogany, and light tints, and consisting of two double and one single staterooms, bath room, three toilets, and main cabin; with dining room in deck house. Large crew's quarters under turtle back deck forward; large deck room. Two triple expansion engines, two water tube boilers, launch and dinghy, together with equipment for deck and below. For plans, inspection permit and price apply to Gielow & Orr, 52 Broadway, New York.



NO. 3000—BARGAIN—Raised deck launch (day cruiser); 51x10x3 ft. Launched last June. Roomy cockpit aft 20 ft. long. Large saloon with four berths, toilet room, etc. Speed 10½ miles; 25 h. p. standard motor. Particulars from Gielow & Orr, 52 Broadway, New York.

NO. 2680—Cruising power yacht; 75x14x4 ft. Speed 12 to 16 miles; 90 h. p. 6-cylinder Standard motor. Two double staterooms saloon, bath room, two toilets. Electric lights, etc., complete. Price attractive. Apply to Gielow & Orr, 52 Broadway, N.Y.

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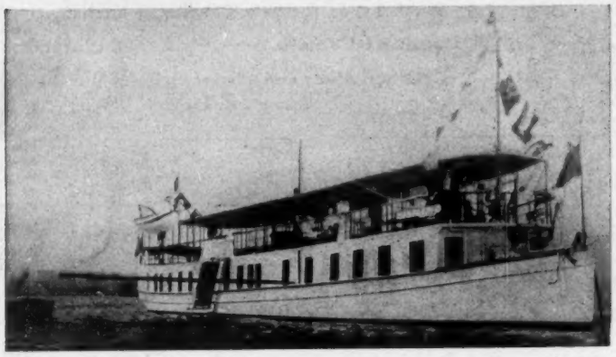
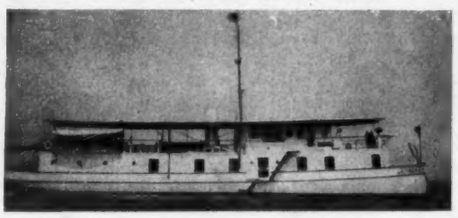
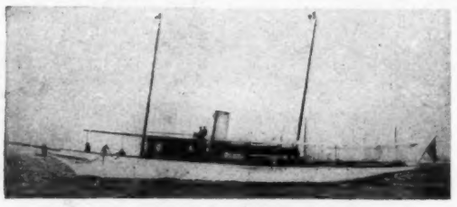


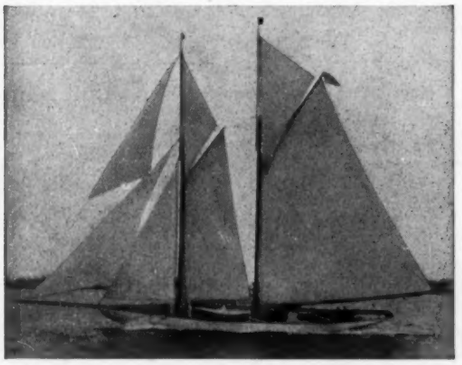
NO 1808—FOR CHARTER AND FOR SALE.—Twin screw power houseboat, 123.3 ft. over all, 115 ft. waterline, 17.8 ft. beam, 3.6 ft. draught. Built in the best possible manner 1901. Has five large staterooms, two bathrooms, saloon. Has a launch and small boats. Equipped with two 75 H. P. Standard motors. Speed, 9 knots. Complete electric light plant. Hot and cold water. Is in unusually good condition, having always had the best of care. Owner will consider any reasonable offers. For full particulars apply to Tams, Lemoine & Crane, 52 Pine Street, New York.



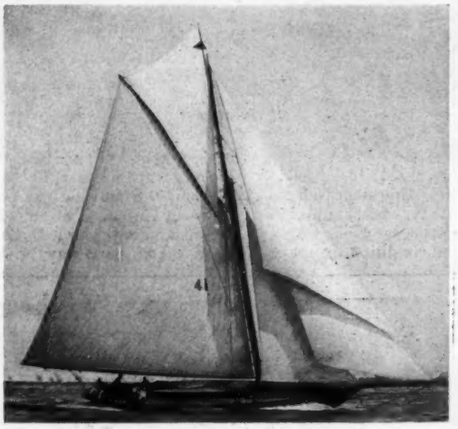
NO. 1820—FOR CHARTER AND SALE.—Motor houseboat, 103 x 94 x 20.4 x 2.6 ft., built 1903. Yacht suitable for Northern as well as Southern waters. Has two large double staterooms, two single rooms, two bath rooms, saloon, two sitting rooms on deck. In best possible condition. Twin screw, has 2 seventy H. P. motors. Can be had for a reasonable figure. Now in commission.



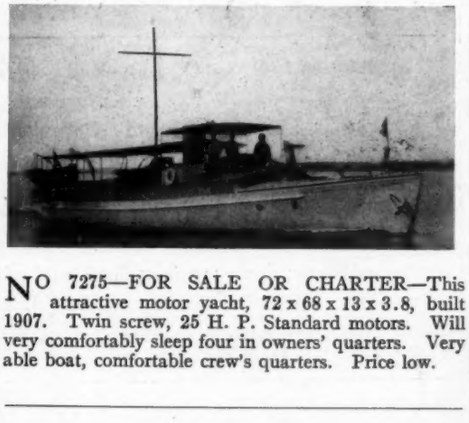
NO. 574—FOR SALE AND CHARTER.—Unusual chance to purchase or charter this desirable steam yacht, 97 x 85 x 15.4 x 8. Has three staterooms, saloon below, dining saloon on deck. Crew's quarters forward. Very economical.



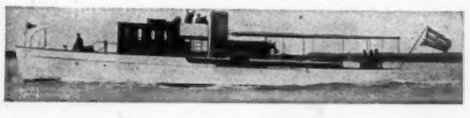
NO. 4543—FOR CHARTER AND FOR SALE.—This fast, handsome auxiliary schooner, 89 x 62 x 18.3 x 8.5 ft. Built 1902. 25 H. P. motor recently installed. 25 tons lead ballast. Ratsey sails. Three staterooms, one double and large saloon. Best possible condition. Carries three boats including launch. Fully found. Sell at low figure.



NO. 3043.—FOR SALE.—52.8 x 34.10 x 12 x 8, designed by us, very successful racing as well as cruising boat.

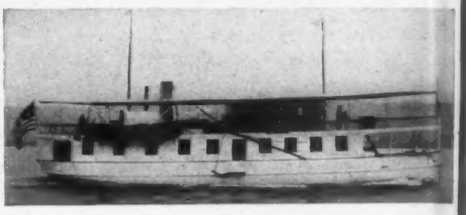


NO 7275—FOR SALE OR CHARTER—This attractive motor yacht, 72 x 68 x 13 x 3.8, built 1907. Twin screw, 25 H. P. Standard motors. Will very comfortably sleep four in owners' quarters. Very able boat, comfortable crew's quarters. Price low.

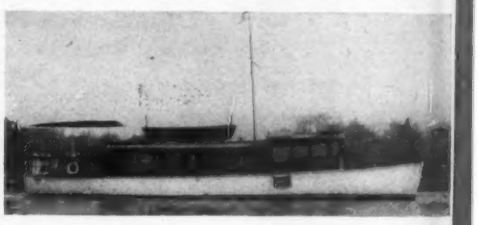


NO. 7442—FOR CHARTER AND FOR SALE.—Cruising motor yacht, Lawley design and build, 81 x 73 x 13 x 4 ft. draught; launched 1907; speed, 15 miles; two double, two single staterooms; two berths in saloon; sleeps nine; equipped with 100 H. P. Standard, self-starting. Price attractive.

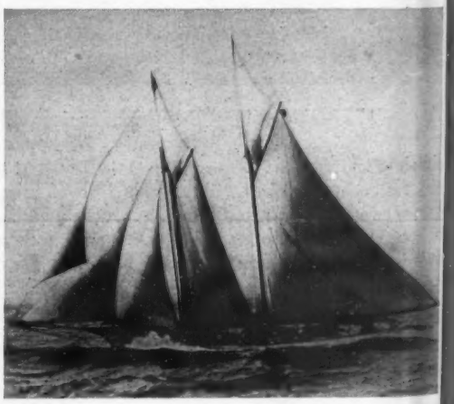
NO. 166—FOR CHARTER AND SALE—196 x 163 x 25.7 x 11.6 ft.; nine rooms, two baths, dining, sitting, smoking rooms.



NO. 1837—FOR SALE AND CHARTER.—This attractive power houseboat 87 x 76 x 23 x 4 ft. built 1906. Three large staterooms, three bath rooms. Saloon below sitting room on deck. Two 75 H. P. motors. Complete outfit.

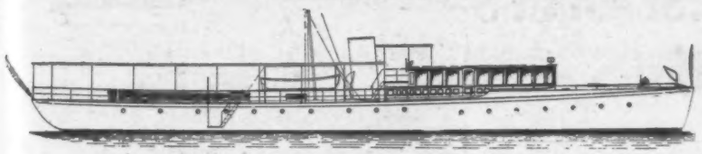


NO. 7309—FOR SALE AND CHARTER.—This handsome cruising launch, 47 x 9.6 x 3.6. 2 H. P., 20th Century motor; speed, 12 miles. Will sleep four in owners quarters. Fully found for cruising. Very able yacht.



NO. 1039—FOR CHARTER AND FOR SALE.—Steel flush deck auxiliary schooner "Iroquois," 98 x 80 x 21 x 11 ft. Best condition. Completely overhauled this Spring, having new white pine deck, running and standing rigging. 60 H. P. Remington oil motor installed under Messrs. Cary Smith & Ferris's supervision. Craig bronze feathering propeller. Speed over 9 miles an hour. Five staterooms, bathroom, large saloon. Unusual opportunity. Owner would consider any reasonable offers. For full particulars apply to your own broker or Tams, Lemoine & Crane, 52 Pine Street, New York.

ALACRITY



118 x 15—2-300 H. P.
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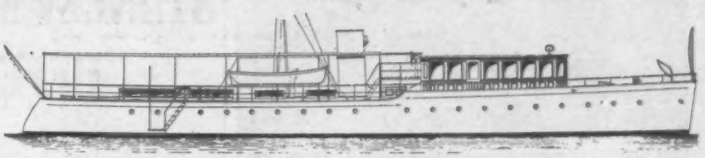
TOPSY



98 x 15—2-100 H. P.
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All the illustrations on this page are of vessels from our designs now under construction. We have many others under way and will gladly show you plans of any type in which you are interested and submit estimates of cost of construction.

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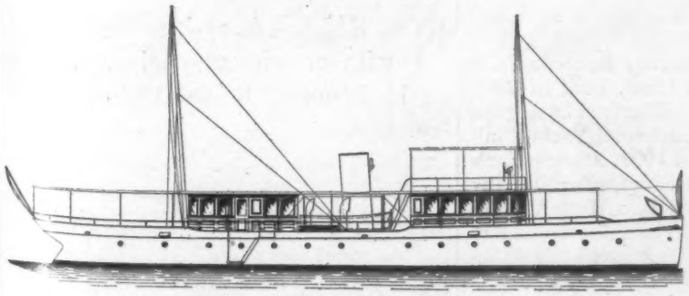

98 x 16—2-100 H. P.
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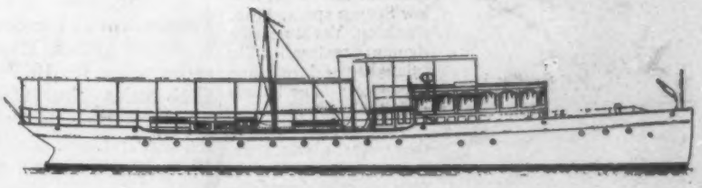
MAHAPA II.



85 x 15 2-60 H. P.
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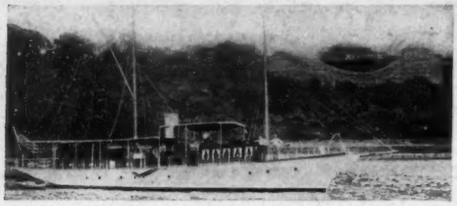
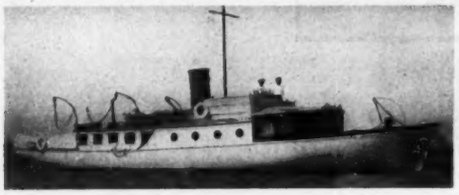
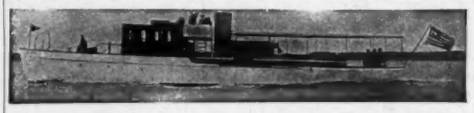
STANLEY M. SEAMAN'S OFFERINGS



NO. 5,976.—90 ft. over all; 2 staterooms; twin screw; electric lights. New 1909. Inspectable New York City. Inquire further of Stanley M. Seaman, 220 Broadway, New York.

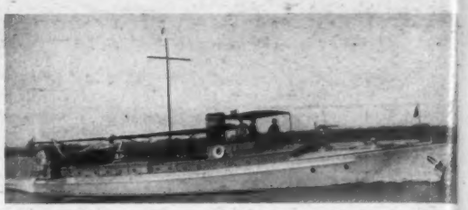


NO. 5,504.—60-ft. sea cruiser, 13 beam; stateroom; bath; saloon; 60-H. P. motor; 13 miles; electric lights; all conveniences. Low price. Seen Long Island. Address Stanley M. Seaman, 220 Broadway, New York.

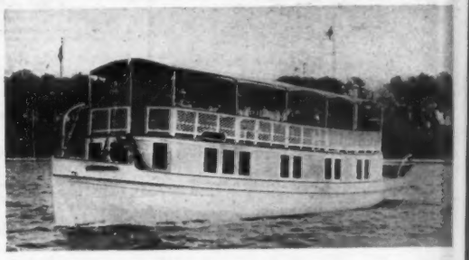


NO. 5,967.—81-ft. Lawley cruiser; 100 Standard engine; 13 miles; 2 staterooms; deck dining saloon. Low price. Address Stanley M. Seaman, 220 Broadway, New York.

NO. 5,896.—Finest gasolene cruiser available; 54 feet; launched 1909; stateroom; saloon; bath-room; 30-H. P. four-cycle motor; 11 miles; electric lights. Very reasonable price. Nearly ready to go in commission. Seen New York City. Apply to Stanley M. Seaman, 220 Broadway, New York.



NO. 5,495.—72-ft. twin-screw ideal cruiser; launched 1907; stateroom; saloon; Standard engines; 11 knots. Low price. Inspectable near New York. Address Stanley M. Seaman, 220 Broadway, New York.

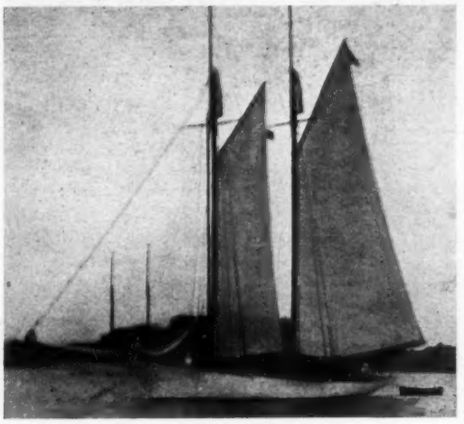


NO. 5,260.—Ideal cruiser, go anywhere any time. 61 feet long, 16.2 beam. 2 staterooms; large saloon; 25 Standard engine; exceptional comforts and conveniences. Low price. Inspectable near this city. Apply to Stanley M. Seaman, 220 Broadway, New York.

FOR SALE—17½ ft. over all, 8-ft. beam, shallow draft centreboard catboat, built by Woodbury Hodgdon, Westport, Me., in 1908. Oak beams and keel seasoned under cover four years before building. Has cuddy for storing things, anchor and line, good white oak oars, topping lift, lazyjacks, three pneumatic cushions. Will be repainted, put into commission and launched. Able, safe little craft. Laid up in building near Christmas Cove, Me. Owner bought a larger boat is reason for selling. First check for $150 takes her. Apply John G. Alden, 27 Kilby Street, Boston, Mass., or Dr. H. W. Foster, owner, Montclair, New Jersey.

FOR SALE—Inland Lake, Class "A," built 1909; 38-ft. overall; excellent condition; hollow Spruce spars; ½-in. planking. Yacht manilla rigging; mainsail; jib; spinnaker and reaching spinnaker; bilge boards and double rudder.

The boat has been in the water about three months only. Will sell at very low price due to dissolution of syndicate ownership. Address L. C. Kuhnert, Jr., 1410 E. 56th Street, Chicago.



FOR SALE AND CHARTER—An exceedingly attractive flush deck cruising keel schooner yacht, 69 ft. overall; 53' 10" water line; 17' 4" beam; 9 ft. draught. Good accommodations; in the pink of condition. Prices very reasonable. For further particulars apply to Cox and Stevens, 15 William Street, New York City.

FOR SALE—Mischief; New Rochelle Yacht Club, One Design Class, built in 1907. Fastest boat in her class. Winner of 36 first and 5 second prizes, also Larchmont Yacht Club, series prizes for 1907 and 1909; Atlantic Yacht Club series prize 1909; Championship 1st. div. handicap class Gravesend Bay, 1908; Championship 2nd. div. handicap class, Gravesend Bay, 1909. Hull, sails and rigging in perfect condition. Owner going to sail in another class. Can be seen at Petersen's yard, foot of Bay 43rd Street, Brooklyn, N. Y. Apply to J. L. Mitchell, 20 Lockwood Avenue, New Rochelle, New York.

TWENTY-FIVE second-hand Motors 1½ to 10 h.p., two and four-cycle, nearly all makes. Palmer Bros., Cos Cob, Conn.

WANTED—Round Bottom, Row Boat, about 10 feet, suitable for yacht tender. Must be in A1 condition, and price reasonable. J. T. McNaier, 23 Murray Street, New York City, N. Y.

FOR SALE—Modern auxiliary yawl, 38 ft. 8 in. o.a. x12 ft.x3 ft. 10 in., centerboard, guaranteed sound and in excellent condition. 6 ft. headroom, sleeps 9, seats 12 at table. Mahogany and quartered oak finish. 2-cylinder 5x5 engine, good sailer. Sails in good condition. Forced to sell. Price $2,000, best offer takes her. J. I. Maxson, Westerly, R. I.

FOR SALE—A 25-foot steel launch, with or without engine. Address E. L. Munroe, Racine, Wisconsin, R. No. 3.

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NO. 2136.—Racing and Cruising Sloop, designed by Gardner and built by Wood, 1903. Fits the new rating rule, and one of the fastest boats in the M class (46 feet rating.) Dimensions 64 feet on deck, 41 feet water line, 12 ft. beam, 9 ft. draft, composite construction, double planked, all lead outside ballast, full suit of Ratsey sails good as new. Excellent accommodations for four people cruising. Can be bought at a bargain price. FRANK BOWNE JONES, Yacht Agent, 29 Broadway, New York.

NO. 2414.—Seabury built "Express" Steam Yacht, 100 ft. over all. One of the best yachts of the type and has a speed of over 20 miles. Has deck dining saloon. Double stateroom connects with bath room. A new boiler has recently been installed. The equipment is very complete and the yacht is in the best of condition throughout. FRANK BOWNE JONES, Yacht Agent, 29 Broadway, New York.

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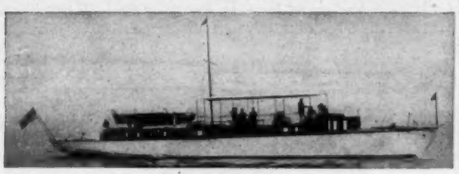
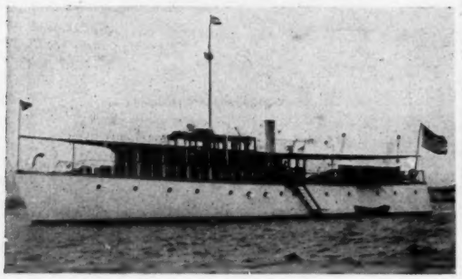


NO. 1470.—Twin-screw gasolene yacht, 93 ft.; three staterooms and saloon; Craig engines; speed, 14 miles; best possible condition throughout.



NO. 1238.—Large power cruiser, equipped with three gasolene motors of first-class make; 125 x 20 x 6 ft.; recently launched; offered by an estate.

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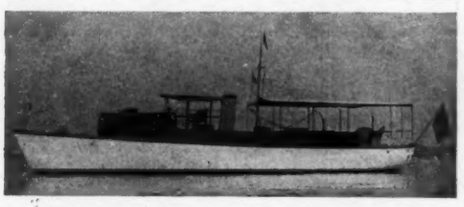
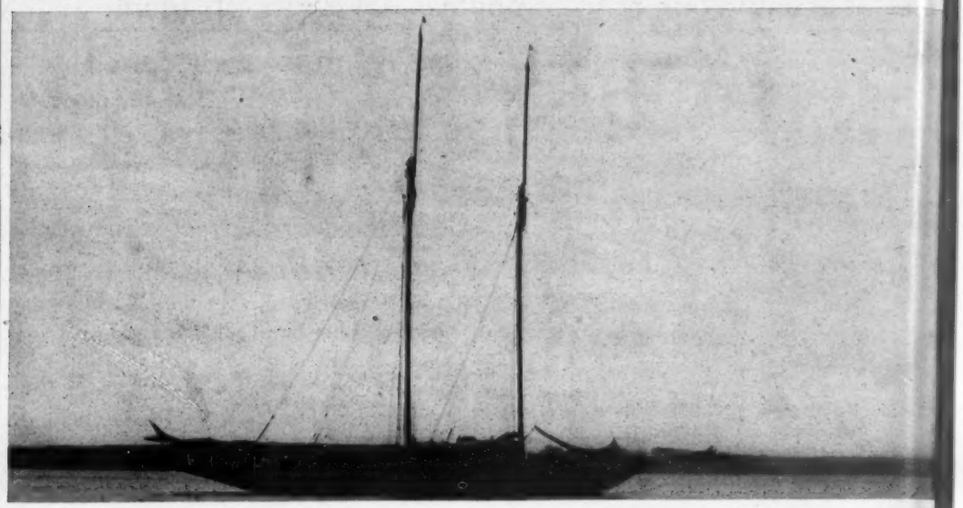
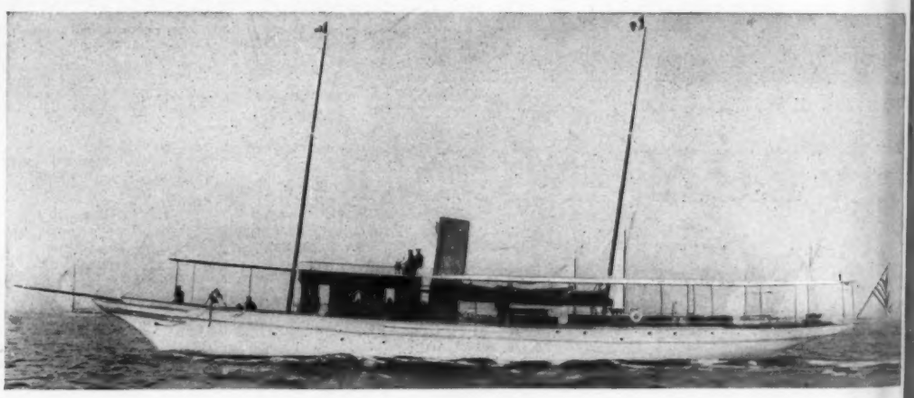


NO. 1117.—Gasolene cruising launch, 58 x 50 x 11.3 x 4 ft. draught; launched 1906. Finished in mahogany throughout. Steers from bridge in pilot house. Excellent accommodations. Equipped with 40 H. P. Murray & Tregurtha engine. Speed 12 miles.



NO. 209.—For Sale and Charter—Handsome steel auxiliary schooner, flush deck, 88 ft. over all, 63 ft. waterline, 18 ft. beam, 8 ft. 6 ins. draft; built by Lawley; equipped with 50- H. P. Craig engine, new 1909; bronze shaft, feathering propeller, etc.; speed, 8 miles; electric lights and storage batteries; lead ballast; complete new and unused suit of sails; two boats (dinghy and launch). Accommodation consists of 2 large double staterooms, 2 single staterooms, commodious main saloon, bath room, captain's room, galley and forecastle. Interior finish of maple. This boat is in excellent shape throughout, and could be put in commission at very small cost. Must be seen to be appreciated. Reasonable figure will be accepted. Season's charter will be considered. For further details, such as plan, price, etc., apply my agent, William Gardner, 1 Broadway, New York City.



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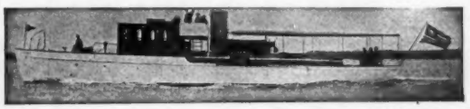

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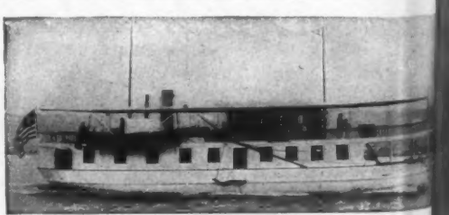

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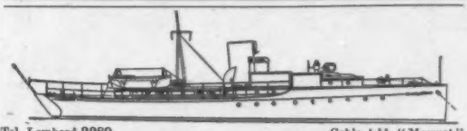

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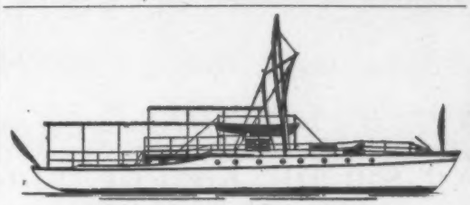

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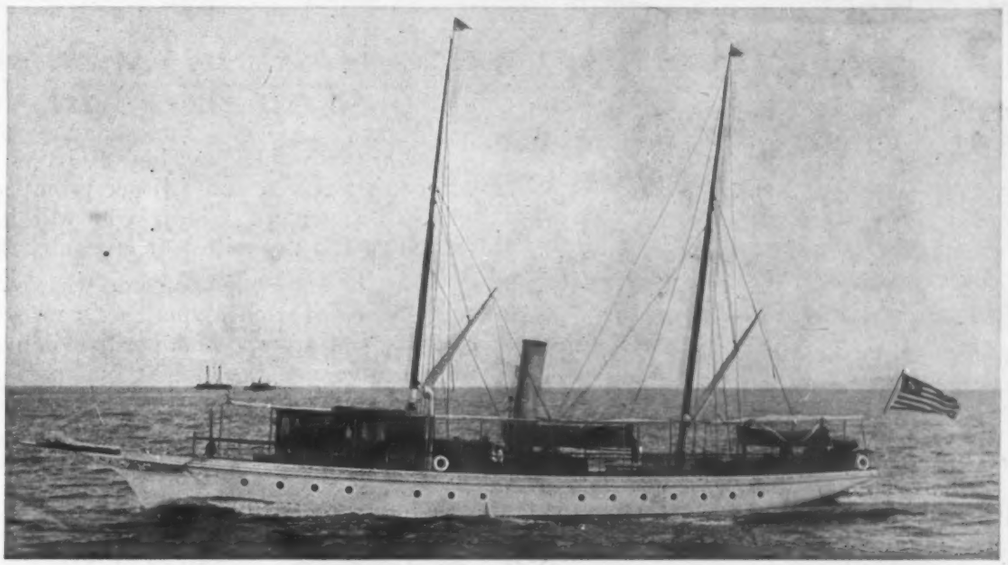

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You have my free permission to use this letter in any way that you may care to, and I will answer any inquiries that may come to me on this subject.

Frank S. Terry
Master of Steam Yacht "Theresa".

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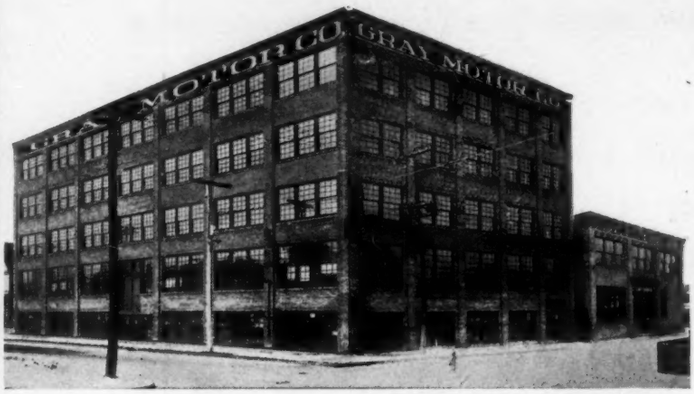

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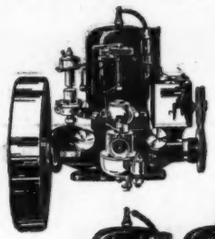

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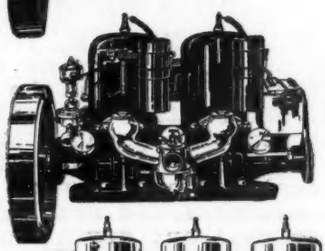

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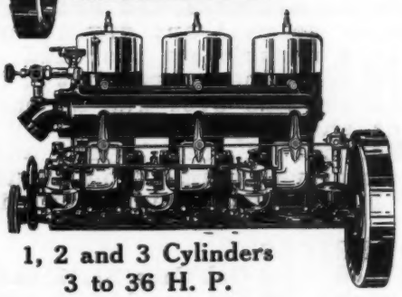

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HERBERT L. STONE, Editor LAWRENCE PERRY, E. T. KEYSER, Associate Editors

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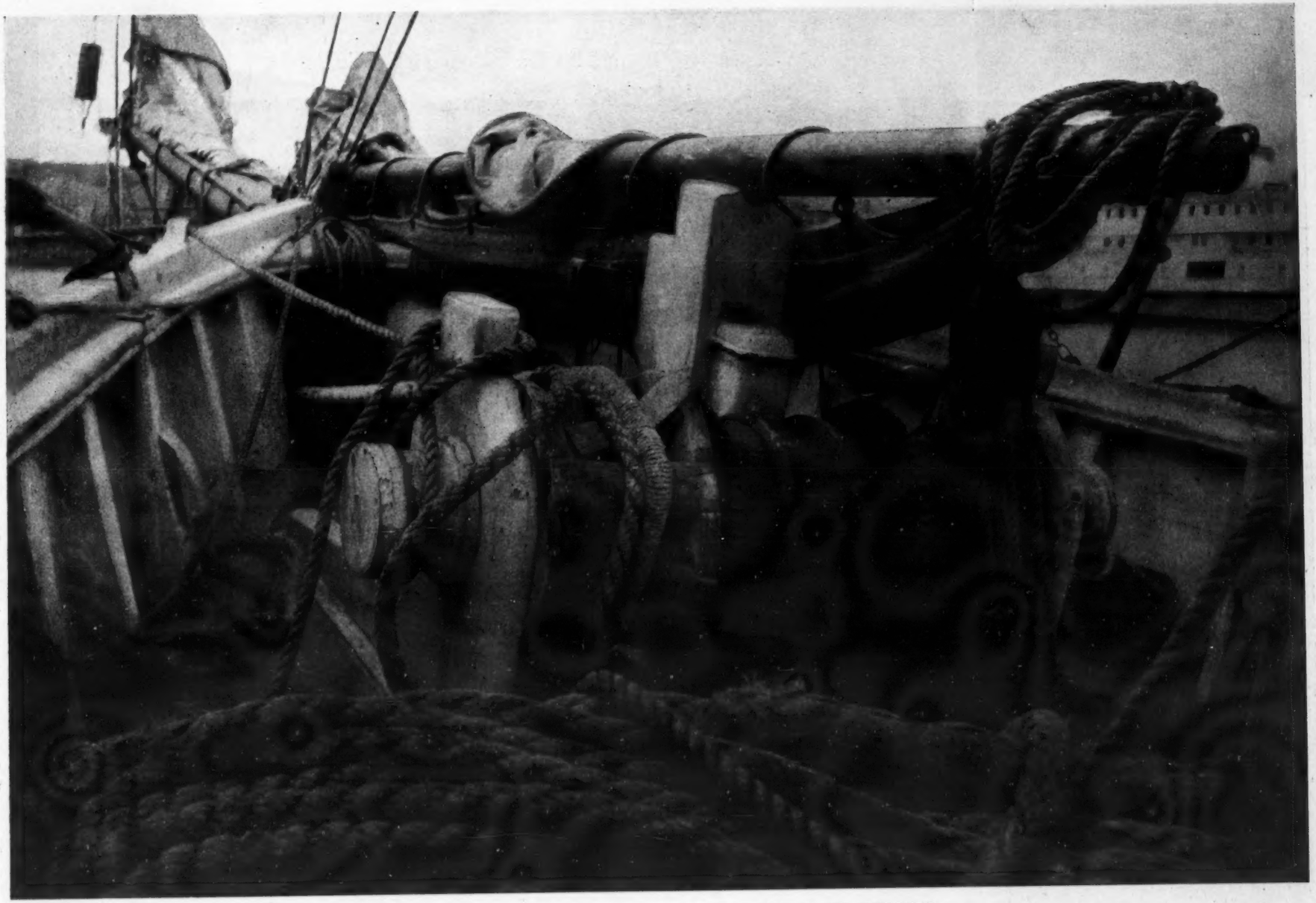


HEMP CABLES AND WOODEN WINDLASS STILL PREVAIL ON MOST OF THE FISHERMEN.

See "Evolution of the American Fishing Schooner," page 409.

YACHTING

VOLUME VII. NUMBER 5 — May, 1910 — 25 Cents a Copy $2.00 a Year

VIEW OF THE COURSE AT PALM BEACH.

The Palm Beach Regatta

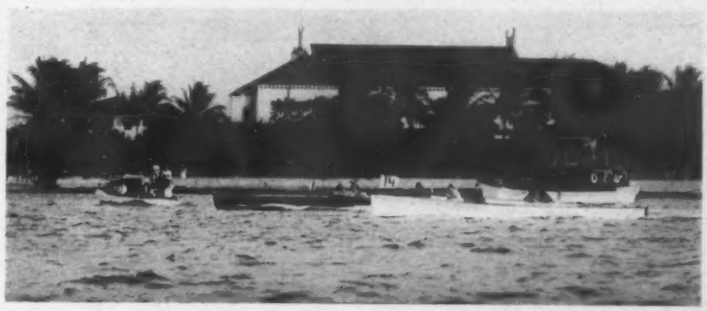
By H. L. LAWRENCE

Photographs by E. Levick

IT is usually considered that the powerboat races over the palm-lined course at Lake Worth, Fla., mark the opening of the season for power boating, and while some weeks elapse between this now classic event and the next open regatta of any importance, the Palm Beach races serve notice that the chrysalis stage has passed and that the season is "on."

The number of boats participating in this year's regatta proved something of a disappointment. Sixteen boats were entered for the various races, but only eleven showed up on the morning of the first day's racing and took part in the events of the subsequent four days. The following is the list of these boats and their owners:

1. Bruiser, A. B. O'Hara, Rockledge, Fla.
2. Buffalo Courier II, W. J. Conners, Buffalo Motor Boat Club.
3. Diana, Geo. Gingras, Rockledge, Fla.
5. Dewey, W. F. Coachman, Jacksonville Power Boat Club.
7. Gertrude F., Chas. Furthman, New York.
8. Jack Rabbit, H. L. Willoughby, Jr., Sewall's Point, Fla.
9. Keego, Frank M. Andrews, Gilbert's Bar, Yacht Club.
10. Meteor, D. H. McMilan, Jacksonville Power Boat Club.
11. Possum, H. L. Willoughby, Sr., Gilbert's Bar Yacht Club.
14. Eau Gallie, G. F. Paddison, Eau Gallie Yacht Club.



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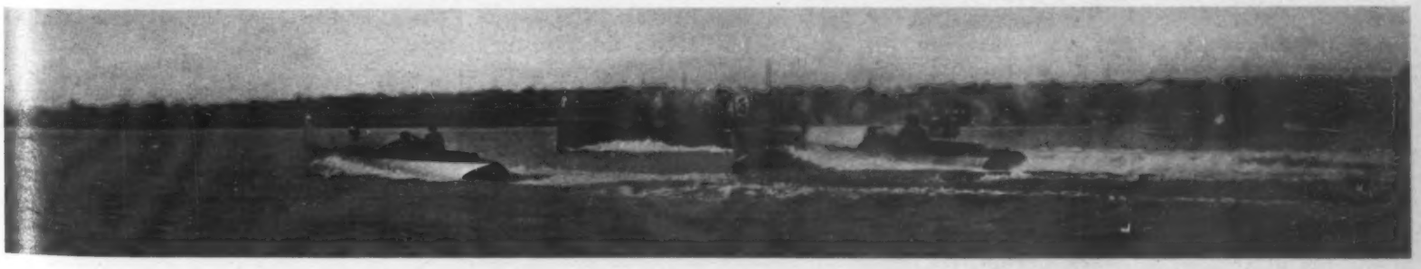
The most interest was again centered, as it was last year, in the entry of W. J. Conners of the Buffalo Motor Boat Club, who this year had a new speed wonder in Buffalo Courier II, equipped with a high-speed Sterling engine, which had been credited with considerably over 30 miles an hour. It is unfortunate that after a remarkable performance in the Class C event on the second day, Courier, after overcoming a big handicap in a grand race and finishing in a dead heat with Dewey, attaining a speed of 31.285 miles per hour, was disqualified for exceeding her average of 30.369 miles in the speed record trials for the Palm Beach Cup the first day, which event was supposed to bring out a boat's best speed.

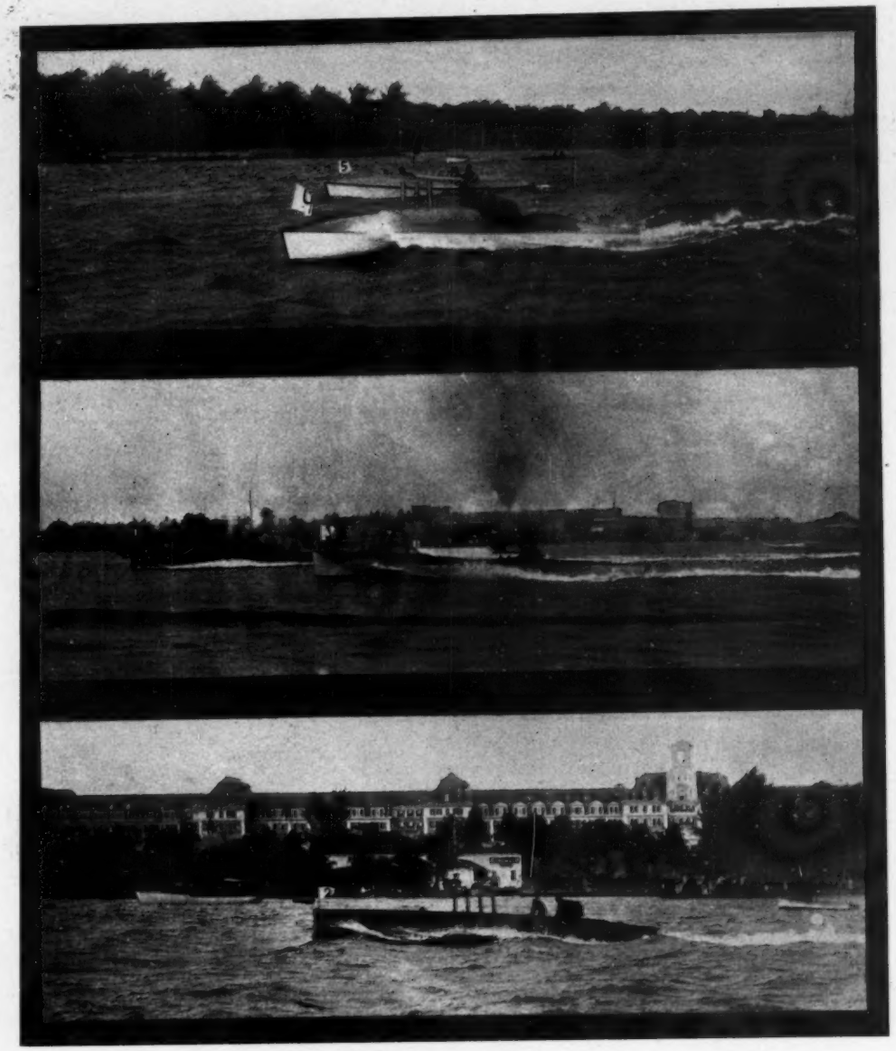
This same thing happened to Mr. Conners' entry last year, and he was greatly displeased at the committee's ruling, declaring that he would never bring a boat to Palm Beach to race again. Courier II was unfortunate in being pursued by hard luck throughout the week, as she broke her propeller by striking a log in the second day's racing, and after hauling out and having a new wheel fitted she had to withdraw from the Class DE race



START OF THE FREE-FOR-ALL.

the next day on account of a cracked piston, after turning into the homestretch and rapidly overhauling the other boats. Apart from Buffalo Courier, Dewey, a 37-foot boat, equipped with a 45-65 horsepower Sterling engine, by her sensational win in the endurance race of 103.5 nautical miles the last day in 4-47-40, and by her taking the Frank Tilford cup in the Class E race of Thursday, and winning the 18-mile Class BC race of Wednesday, was probably the largest winner as far as the importance of the events is concerned.

Throughout the four days of racing the weather conditions were good, and while for a part of the time the wind blew strong, kicking up something of a sea in the shallow lake, the boats were not bothered except at the turns, where they took the waves abeam or quartering.



KEECO AND DEWEY IN THE CLASS C RACE.
BUFFALO COURIER II PASSING DIANA.
COURIER GOING THROUGH THE SHORT SEAS IN FRONT OF THE ROYAL POINCIANNA.

The first race on the programme for Tuesday, March 15, was the speed record trial for the Palm Beach Cup. This event brought four of the fastest boats entered to the line — Buffalo Courier II, Diana, Jack Rabbit, and Dewey—and consisted of six trials over the mile course from the committee boat off the Royal Poincianna dock to a stake boat anchored at the southerly end of the course. Buffalo Courier soon showed her quality by running away from the other boats and made the best time. The average speed for the six trials of the contestants were as follows, expressed in statute miles: Buffalo Courier II, 30.369; Diana, 24.835; Jack Rabbit, 22.981, and Dewey 22.897. Though the Courier made the fastest time, the rules stipulated that in these trials the boats to be awarded the prize must obtain a higher speed than in the general racing, and as Courier exceeded this time in her race the next day, she was disqualified as told above, and the race awarded to Diana. The winners in the other events follow:

Speed Contest—9 miles.—Open to Florida-designed and constructed boats for the Association Cup. This cup will have to be won twice by the same boat owner. Diana, winner; Dewey, second.

Class A—9 miles.—American Power Boat Association Handicap; open to all boats. First prize, Black & White Cup; second prize, $20 in gold. Jack Rabbit, winner, 1 minute 26 seconds ahead of Diana; Diana second.

Wednesday, March 16.—Class B, 4½ miles. Contest for boats over 32 feet L. W. L; prize, T. S. Barron Cup. Eau Gallie, winner; Possum, second.

Class C—4½ miles.—For boats over 32 feet L. W. L.; prize, Greenleaf & Crosby Cup. Bruiser, winner; Dewey, second.

In this race the Dewey exceeded her time by over 3½ per cent., and the Courier II by over 5½ per cent.

Class BC—4½ miles.—Contest for all boats; prize, Commodore Harrison B. Moore Cup. Diana, winner; Jack Rabbit, second. The winners in the afternoon racing were:

Class BC—18 miles.—For boats all lengths; prize, Arnold Constable Cup. Dewey, winner; Eau Gallie, second.

Thursday, March 17.—Class D, 4½ miles. For boats under 17-mile speed; prize, Friend's Cup. Gertrude F, winner; Possum, second.

Class E—4½ miles.—The Jack Rabbit was first over the line, but was penalized eight seconds, putting her in second place; prize, Frank Tilford Cup. Dewey, winner; Jack Rabbit, second.

Class DE—9 miles.—For all boats over 12-mile speed; prize, Still Rock Cup. Eau Gallie, winner; Bruiser, second.

Speed Economy Test; prize, Champagne Cup. This event was abandoned and the two following races substituted.

Class E—4½ miles.—Bruiser, winner; Eau Gallie, second.

Class DE—9 miles.—Bruiser, winner; Dewey, second.

The last day of the regatta, Friday, March 18, was reserved for the endurance race of 103.5 nautical miles, or 23 times around the 4½-mile course. Four boats were entered, Eau Gallie, Jack Rabbit, Diana and Dewey. Courier II was prevented from starting by the accident of the previous day.

The boats were started in the following order: Eau Gallie at 10.03; Jack Rabbit at 10.38; Diana at 10.41, and Dewey at 10.45, the last get-away. Eau Gallie was twice around the course before Jack Rabbit and then Diana were off. Dewey kept, at great risk, close to the line, so as to be off almost with the gun, as her handicap only got her off after Eau Gallie had completed her third lap and was well around the course.

After Diana had finished her second lap she made the turn at the north end of the course, and, in view of the crowd, stopped

almost abruptly. Every effort was made to adjust and correct the trouble with the clutch, but, failing in this, she was headed for the basin and withdrew from the race.

Dewey and Jack Rabbit made some beautiful turns, gaining each time they did so. Near the end of the twelfth lap the gap between them was almost closed.

Coming up the course, these two rivals were seen to be almost abreast. Dewey was inside and Jack Rabbit outside. On the first turn, Dewey, having the advantage of the inside, made a close hug of the buoy barrel and passed Jack Rabbit. She did the same at the second turn, where Jack Rabbit only had a possible chance by her outward sweep to dash in and pass Dewey. From then on, Dewey maintained her record, and as lap followed lap she gained on Eau Gallie until the completion of the twentieth lap, when she passed her and finally crossed the finish line 3 minutes and 51 seconds ahead of the Jack Rabbit, which had also passed Eau Gallie and finished in second place.

The elapsed times were: Dewey, 4-47-40; Jack Rabbit, 4-58-31; Eau Gallie, 5-42-26.

Victory in this event carries with it a leg on the Palm Beach Grand Prize of $2,500 in gold, in addition to a handsome prize cup. This cash prize has to be won twice by the same owner before becoming his property, as the conditions specify that it has to remain in the custody of the association until so won, drawing, however, 3 per cent. interest; the interest money being added to the original prize upon final payment. This means that Dewey will probably be seen at the event next season, in an endeavor to clinch the cash. Probably everyone at Palm Beach watched this race at different times during its course, and interest in the event ran high.

WATCHING THE RACES.
MAKING THE TURN AT ONE END OF THE COURSE.

The programme was brought to a close by a consolation race of 4½ miles for those boats that had not won an event during the regatta. This race went to Keego, with Possum second.

On the Sunday previous to the opening of the regatta a curious and spectacular accident happened to Buffalo Courier II, which happily resulted in but little damage to the craft, though it created a great deal of excitement along the water front. While going over the course for a truing-up spin the crew, in some manner, lost control of the boat, and she shot ahead at full speed as they neared the turn in the course. The captain, seeing that he could not make the turn, reached for the reverse lever, but in his haste to throw it over something broke in the gear, and the boat careened badly as she shot forward towards the railroad bridge across the lake. Two of the crew were thus pitched out into the water, one of them being the captain, and the third man, a local mechanic, losing his head, jumped overboard as the craft bore rapidly down on the bridge, instead of trying to shut off the engine. With no one on board, and running straight for the bridge at 30 miles an hour, it seemed a safe bet that the boat would soon be kindling wood; but, by what seemed a miracle, she shot under the structure, between the pilings, striking them a glancing blow which only split a few planks and cracked a couple of frames, and, swerving to one side, ran hard upon a mud bank and came to a stop. An examination showed but little damage done and the boat was soon hauled off and taken to Palm Beach for repairs. By rushing the work it was completed before dark Monday, and the boat had a trial spin that evening, apparently none the worse for her little joy ride. The engine did not seem to be hurt, and, barring a wetting and a scalp wound of one of the crew, received in going overboard, but little damage resulted. Those 30-mile boats are great when they get started.

It was well for the interest in the regatta that Courier could come to the line on Tuesday morning, as her performance was keenly followed. There is no doubt that she is a very fast boat, and she will doubtless be heard from again before the season's racing is over. In the thirteen races which were run off during the four days, the following boats were the winners of first prizes, the number of wins credited to each being also shown:

Bruiser, three races.
Eau Gallie, two races.
Diana, three races.
Dewey, three races.
Jack Rabbit, one race.
Gertrude F., one race.
Keego, one race.

The chairman of the Regatta Committee in charge of the event was Theodore D. Wells, of New York, and the various races were run off promptly and in a shipshape manner. The other officers of the Palm Beach Power Boat Association are: H. M. Flagler, president; W. K. Vanderbilt, Jr., and Fred Sterry, vice-presidents, and Leland Sterry, secretary and treasurer.

Britomart's Business

THE TALE OF A MAY RUN ALONG THE NORTH SHORE OF LAKE ONTARIO TO THE BAY OF QUINTE

By C. H. J. SNIDER

WHITBY LIGHTHOUSE.

"WELL, if I must, I must; but it's cruel hard on us poor sailormen to have to end our days tootling around these parts in gasolene gadabouts!"

This was the gracious reply the Genius received when he besought the Ancient Mariner to tear himself away from the office for a few days to help him get his newly-acquired marine property, to wit, one motor-boat, known and acknowledged by the name Britomart, from her moorings in Port Credit Harbor, Lake Ontario, to Trenton, on the Bay of Quinte. It is only necessary to add that the A. M. aforesaid had, only a moment before, made moan to the Genius, who was his boss in business hours, over the fact that he had holidays immediately ahead of him that were going to be of no use, for there was no place to go and nothing to do early in May. "A man might as well work in a Siberian lead mine as toil for a Toronto bank," etc., etc., etc. All of which goes to prove that neither an accountant's job nor hobnobbing with motorboaters can entirely eradicate from the mind of a seaman his inalienable right to grumble.

"Grumble you may, but go you must!" quoted the Genius sternly. "How's my family to spend a long, happy summer on the Bay of Quinte, with a cottage and no launch; and how's a launch going to get to them with nobody but their poor 'pa' to navigate it?"

This was unanswerable, so the ancient one capitulated. The twain repaired to the Toronto Royal Canadian Yacht Club lockers for their dunnage and, in a few hours, were speeding westward on the trolley from the second largest city in the Dominion of Canada to that city's furthest suburb—Port Credit.

Now, the Genius was deserving of his name. The preceding fall he had cast about in his mind as to how he was to provide boating accommodation for himself and family for the summer on the Bay of Quinte in such a way that his bank account would not be ruined, or, yet, that he would not be mistaken for a "malefactor of great wealth;" nor, on the other hand, would he have to undergo the humiliation of laboring incessantly at oars, or, perchance, have his summer spoiled by over frequent attendance at obsequies—as may happen if you get the proper proportion of carelessness and a canoe. And while he thought on these things during an afternoon stroll around the vanishing piers of Port Credit, behold an ancient man—not, for a wonder, his friend the Ancient Mariner—who sat on the edge of a wharf and cursed his fate at being the owner of a fishboat with no fish to be caught. To cut the yarn short, the Genius haggled with the old chap until, after some formalities, he, the Genius, became the possessor of a clipper-bowed, flat-sterned, clinker-built fishing smack, that had been converted into a gasolener by the simple process of taking out her spars and centreboard and installing a three-horse-power engine. The smack had clean lines and had been smart under sail; but all they could get out of her, with the engine, was a miserable four knots—and sometimes nothing at all. That, and the falling off in the fishing business, had disgusted her owner, and he parted with her to the Genius for something less than the engine had cost. "Take her at that, and a good riddance," quoth he.

The Genius, being a real genius, knew enough to look this gift horse in the mouth. He expected to find faults in Britomart, and did. Her propeller was too small, for one thing, and the pitch was wrong. Her engine suffered from more ills at once than any seven-year-old youngster. She was a terror on batteries, exhausting three sets, one after another, in the first week he tried her. This trouble was traced down to the commutator, which was found to be a worn-out contraption which gave a long, wheezy spark instead of a short, sharp one. One by one her troubles were diagnosed, until by the time he laid her up in Port Credit harbor in the early winter the Genius had a pretty accurate knowledge of what was ahead of him. He left her hull to the tender mercy of a good, local boat builder and his mentor, the Ancient Mariner; but the engine he took home with him to the city. By the time it was reinstalled, in the spring, he had it, as he said, so it would "eat out of your hand." Britomart, free of her fish scales, with her old paint burned off and sandpapered down, and her coamings freshly scraped and varnished, looked a new boat and acted like one. Her new propeller and lengthened shaft added at least two miles to her speed. There was no disguising the fact that she was a "convert." Her lines inevitably proclaimed that. But she was by this a comfortable gadabout for family pleasuring, and when the Ancient Mariner surveyed her in all the glory of white paint, varnished oak trim and red plush cushions, even he could scarce forbear a cheer.

For all that she was not a craft to enthuse over when you had a 120-mile trip on Lake Ontario ahead of you. Her fuel cap-

THE TOWERING HIGHLANDS OF SCARBOROUGH AND THE DUTCH CHURCHES.

acity was limited to 10 gallons, and her living accommodation was all contained in a 5 x 10 cockpit, so it will be seen that a trip from one end of Lake Ontario to the other was not unambitious. However, the Genius and the A. M., in spite of the contaminating influence of money—other people's—were hardened seadogs after a fashion, and their simple, brown duck dunnage bags, which they stowed under the half-deck of Britomart, contained as much comfort to the cubic inch as will be found in the forecastle of any windjammer. A pair of blankets, a suit of oilers, a heavy overcoat, a complete change of clothes, were stowed in each. A watertight tin chest, also stowing under the half-deck, contained the provisions for the trip and the culinary outfit, consisting of a frying pan, teapot, granite-ware plates, cups and saucers, flatware and a stewpan. A workable coal oil stove was stowed separately. They figured on making port each night in time for a hot meal, a warm bed, and a good breakfast on shore; but then, for that matter, so does every small cruiser. Our pair went forth expecting this, but prepared for disappointment.

BRITOMART WAS A CONVERTED FISHING SLOOP WITH A 3-HORSEPOWER MOTOR INSTALLED.

It was late that night by the time all stores were aboard, and they did not, therefore, go through the time-honored preliminary spin down to the lighthouse and back ere turning in at the little tavern on the high bank above the harbor. They emerged next morning, full stomached, in time to see the good, old sun climb slowly from his couch, amid the smoke-stained splendors of the radiant east. The lake was as smooth as glass, without a breath and without a ripple. Britomart's cockpit cover was quickly snapped away from the coamings, the bight of her bowline whisked off the stake to which she was moored, and then, with one preliminary wheeze, followed by a steady purring, they were off—down the harbor, out through the piers, and on to the lake's broad bosom.

"Seven, even," said the Genius, glancing at his watch as they turned the lighthouse.

"Six bells," corrected the A. M.

"Gee, but doesn't the old Brit step lively!" they heard a stone-hooker man sing out as they skimmed past one of the heavy craft, poling out to her day's work along the beach. "You'd never know she was the same boat." And she wasn't. For while the hull can break the engine, it's the engine makes the boat with a gasolener.

The Ancient Mariner insisted on doing things in style. No grubbing along from headland to headland for him. A compass course, down to a quarter point, or nothing. They had fixed Cobourg, 75 sea miles to the eastward, as the day's destination, and for Cobourg the course was laid—east-north-east a quarter east. This would just let them squeeze clear of Gibraltar point, on the island that forms Toronto harbor, but it took them away from shore immediately, and kept them out in the lake for half the run, for the north shore of Lake Ontario trends inwards.

They could hear the faint tinkle of the bell of the school house on the island as they passed on the stroke of nine. The big bell in the City Hall tower, two miles across the water, answered it like an echo. The sun was up high, but it was still cold as charity on the water, and the occupants of the launch, muffled in overcoats, had all they could do to keep warm.

"Just wait till it blows up," said the Ancient Mariner, consolingly; "and then you'll feel how cold this lake can be in May."

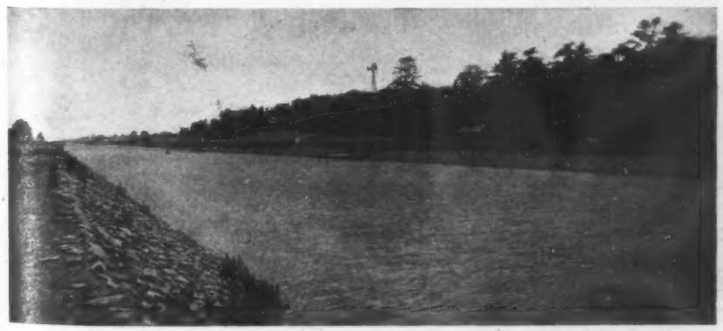
And with that it did begin to blow up. Whereupon the A. M. left the tiller—the Britomart's rudder was still outboard, in memory of her smack days, and she steered with a tiller. He dragged out his dunnage bag, and produced a canvas bundle; likewise marlin, and a coil of small line. The Genius stared.

"Why not make the most of a fair wind?" demanded the A. M. "I had this jib in the locker ever since I sold the old Sunbird, and I've brought it along. Fish out your boathook, man, and your oars, and watch my smoke."

Britomart's fisherman's sweeps had been retained as emergency "power." The A. M. removed the cap that covered her original mast wedges, stepped a sweep in the place and rigged his jib as a leg-o-mutton sail. The other sweep was the boom. The breeze had hardened into a good, stiff nor'west piper, and Britomart, despite the fact that she was doing six or better with the engine, felt the help of the auxiliary canvas and snorted along with a roll of foam along her lee bow like an ocean liner.

"Alas, I am disgraced and utterly put to shame," moaned the Genius, merrily; as the towering highlands of Scarborough and the Dutch churches fled by. They looked less impressive than ever before, for Britomart was drawing further away from the land, and these great clay bluffs below Toronto, which look truly appalling close to, lose their grandeur as the great backbone of country behind them heaves up into view.

Frenchman's Bay, 20 miles below Toronto, could just be seen as they passed it somewhere around two o'clock in the afternoon. The wind, puffy and squally inshore, was steady and true out in the lake, and Britomart was not heeled over too far to make boiling water for hot tea and condensed soup for dinner difficult. Dinner took a long time, nevertheless, for it had to be taken in installments, as boat and course needed careful watching.



MURRAY CANAL, LOOKING WEST. TWELVE O'CLOCK POINT ON THE RIGHT.

THE LONG, SNAKE-LIKE, OLD RED BRIDGE THAT SPANS THE TRENT.

Port Whitby lighthouse showed just a white sliver in the afternoon sun, as they passed it 6 miles out in the lake 10 miles further along. And of Port Oshawa, Darlington and Newcastle they saw nothing at all, although they were beginning to shade in on the shore again.

"How far will 10 gallons of gasolene carry us, anyway?" suddenly demanded the Ancient Mariner, as the sun's slanting rays began to light up the country around Port Hope.

"Don't know. Never tried using it all," answered the Genius blandly. "You see, a pint a mile, an hour a horsepower——"

"Here, cut that out," answered the A. M., "and look in the tank."

BRITOMART'S BENEFACTORS.

The Genius took soundings and found there was still something in the tank. "But it's low," he said, "and besides I'm hungry as a black bear, and cold as a white one."

"That's why I asked," admitted the A. M., "so let's haul her up for Port Hope."

So into Port Hope they went. Reader, a Providence surely watches over lunatics, sailors, and other drunken men. The wind died away with the sun, and the Britomart had to finish the last hundred yards of her day's run ignominiously under the impulse of her trusty sweeps. There was not enough fuel in the tank to quite get her into port.

Port Hope Harbor is a bifurcated arrangement when you get inside. There is but one entrance, the piers running north and south, but once inside you have the choice of the east or west harbor—and both are good; and the town, with plenty of shops and good hotels, is just a step up from the water. Cobourg is only seven miles further east, so the day's run was not chopped off so badly. Mooring that night was done in haste, and a pair of very tired, very cold, and very hungry voyagers fairly ate one of the Port Hope hotels out of house and home. It was after nine by the time the inner man, or inner men, were satisfied. Then they hied them forth for gasolene, but could not find a hardware man who would sell the precious fluid after dark; and so they went to bed, just as well pleased that the job of loading fuel was put off till daylight.

The Port Hope boniface was glad to see them go next morning, as he surveyed the wreck of the breakfast table. Gasolene was now procured without difficulty, and by 10 a. m.—please don't confuse with the Ancient Mariner—Britomart poked her nose out of the piers.

"I move we don't bite off too much to-day," said the Genius, as he took the time passing the lighthouse. "Let's make Brighton and stop there, no matter what the time is."

"Second the motion," said the A. M., "only I believe in making the most of a fair wind when you can. We'll be all right in the Bay of Quinte, no matter what happens. But if we'd had the roll we have to-day to buck against yesterday, we wouldn't have got past Whitby."

He was right. The wind had gone round through the night and was now blowing up the lake, driving before it a long swell from the east. Britomart took it like a duck, but she spent more time curtseying to the rollers than she did climbing them, and her speed was clipped.

Lone Gull Light, at the end of a rocky shoal a mile from shore, breaks the line from Cobourg to Port Hope. Britomart's light draught would have permitted her to pass inside of it, but she took the regular course outside, and then straightened away for her 30 miles of sea-bucking for the shelter of Prince Edward County peninsula. The Gull is a little over two miles from Port Hope, and something over four from Cobourg. It was passed in the first half hour, and Cobourg was well astern by noon.

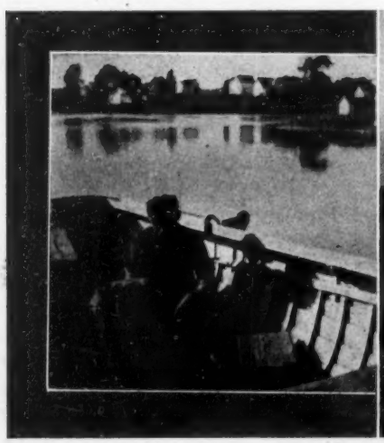
It was not marvelous that the bilge water should increase as the old girl tossed the spray up on her half deck. The A. M. pumped her for the first time off the Gull, but there was more in her off Cobourg, and he jogged her again. The sea made up as the wind increased, and the Genius, relieved of the tiller, fed the purring engine well with grease and oil, and then took his turn at the pump.

"Sniff! Gasolene," he explained.

"What 'ud you expect to smell, attar of roses?" demanded the A. M., with sublime sarcasm.

"No," admitted the Genius, "but the gasolene's strong."

The jump of the sea and a late breakfast made them in no haste for dinner. They changed places frequently at tiller, oil can and pump; not that she was leaking more than was to be expected, but it pays to keep your boat dry inside. Bilge water is bad ballast.



ONE BY ONE HER TROUBLES WERE DIAGNOSED.

BRITOMART AT HER MOORING STAKE IN PORT. CREDIT HARBOR.

"'TAKE HER AT THAT, AND A GOOD RIDDANCE,' QUOTH HE."

By four o'clock they had raised the trees on the peninsula until it looked like an island, and the big bluff at Presqu'isle was showing up. This marks the entrance to Brighton Harbor and the Bay of Quinte.

Then the engine stopped. It didn't do anything else; just stopped. The Genius cranked her and she started again, sputtering badly, and ran for five minutes. Then she stopped, and they couldn't get her to go.

Never mind what they did. They did everything. You've all tried it, slopping around in the trough of the sea. You've hoped the gasolene was accidentally turned off, and been disgusted to find the tap all right. You've prayed for a broken battery wire, and been mad at the cheerful little sing from the key. It was blowing pretty hard, and the trough of the sea was mighty uncomfortable lying; and they both knew enough not to try to anchor her, even if they could have got bottom with their fifteen fathoms of chain. But they did lash the two sweeps, the A. M.'s jib, and two drawbuckets together as a drag, and let her ride to that. She was a long time twisting round to it, and shipped a big sea in doing it, but once she nosed the billows fairly she rode dry. Then they pumped her out.

Once more the Genius sniffed.

"I do believe—" said he, and stopped short. Then he scrambled forward to the tank. He rapped it, and it sounded like a drum. He measured, and lo! of gasolene there was not a trace.

"Blank my picture," exclaimed he; "that tank's been leaking all day; and, in spite of my nose, we've been pumping gasolene overboard ever since we left Port Hope.

Curtain!

"Well," observed the A. M., "it's a long ways back to Cobourg, and there's only one place between. That's Lakeport, as they call the landing pier of the village of Colborne. It's only a pier, and a bad place to lie, but we might try for it."

It was thickening up, and nothing in the shape of a pier was to be seen along shore. But the A. M. was an optimist and said he hoped they were still to windward of it.

It was a miserable, cold, wet job getting the sea anchor aboard and rigging a leg-o-mutton sail—a task that had seemed so jolly only the day before. They managed to do it, however, before dark, and then let her run before the wind, hauling up as much towards the shore as the jury rig and the following seas would let them. It was rather an anxious moment, as the Britomart's ability to sail was limited to points abaft the beam, but, as by a miracle, the little brown pier they were hunting showed up to leeward of them and they ran down to it, shot past the end, and let go the anchor in the shelter they found. The anchor held, for a wonder, and by careful use of the sweeps Britomart was worked up till the A. M. managed to lasso a spile with a bowline, and they knew they were safe from washing ashore.

After straightening things out aboard, the weary mariners debated their next course. The place seemed deserted and it was difficult, if not impossible, to land alongside the wave-washed pier. They decided to trust to the mooring line and anchor chain and wait for the day. By rigging the cockpit cover over the coamings some shelter was provided. The coal oil stove was brought into play, and though it burned up the atmosphere, it gave some heat, and they had hot tea and soup and potted chicken and bread and butter for supper—not exactly desert island fare. The tin box had stayed watertight, and the waterproof dunnage bags had kept the blankets dry; so they settled down to a night of it, taking anchor watches of two hours, however, in event of the wind shifting.

But the wind died away at midnight and the sea went down, so that by morning they were able to tie up beside the pier. Leaving the Genius to cook breakfast the A. M. went exploring, although there was nothing in sight but an abandoned-looking storehouse. He returned in triumph, however, in 10 mirutes, with the news that along the shore a piece was a boathouse with a launch in it. By the time some hot tea had been swallowed the launch appeared, with three men in it—evidently a fishing craft. The A. M. hailed, and she came into the pier.

No, the fishermen couldn't let them have any gasolene. All they had was in their tank, and they were going to Brighton for a supply, seeing that they had a passenger for there. Would they give a tow? Sure thing. So the line was passed and Lakeport bidden a scanty adieu. The ten-mile tow to Brighton occupied two hours, for the fishing launch was a powerful little fellow.

Brighton wharf is at the head of Presque'isle Bay, a fine, natural harbor stuck in the corner where Prince Edward juts from the mainland. The town of Brighton is two miles back, but, at the wharf, where the mail steamers call, Britomart was able to load up on gasolene from a supply kept there. The leak in the tank was easily located and caulked with soap; and, at noon, bidding good-bye to the friendly fishermen, who refused money for the tow, Britomart turned east again, with a glorious sun making amends for previous frigidity.

Landlocked once more, the Genius was again in full command. A series of buoys and range lighthouses lead from Brighton to the entrance to the Murray Canal, a couple of miles away. The canal, six miles long, cuts the neck of the isthmus that joins Prince Edward to the mainland. There are four bridges over it, but Britomart did not need them swung for her, although she stopped dutifully at the second bridge to make out her canal report. Twelve o'clock Point, at the far end of the canal, was passed rather inappropriately at two p. m., and, hauling north-east, Britomart skirted the beautiful wooded shores of the far-famed Bay of Quinte at last. Three miles more and the long, snake-like, old red bridge that spans the Trent was in sight, and ere three o'clock struck she was at moorings under the shadow of the steeples of her summer port.

The Month in Yachting

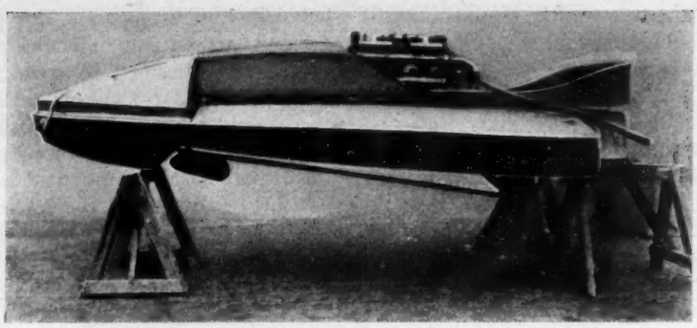
SO many reports have appeared in the newspapers of this country and England regarding a possible challenge of the Duke of Sutherland for the America's Cup that it is timely, not to say meet, to tell just what the exact facts were that gave rise to these rumors.

It was a beautiful morning on the Sound one day last summer—this yarn might as well be started interestingly as otherwise—and a group of yachtsmen, near yachtsmen and landlubbers were standing or seated in wicker chairs aboard a steam yacht which flew the burgee of the New York Yacht Club. The party were balancing tall glasses containing an admixture of fine, old Glengarry and soda (probably) and talking about international cup racing in general.

There was an Englishman on board—a guest, not a steward—and in the course of the conversation he wondered whether a challenge by a titled friend of his for a race for the cup with fifty-seven raters would prove acceptable to the club, or rather to those in the club who seem to hold the fate of future cup racing in their hands.

The titled friend named was the Duke of Sutherland, and he, according to the speaker, had stated that he, together with several friends, would submit a challenge to the New York

organization, provided he could be assured that his defi would receive favorable consideration. Of course, every one present was duly interested, and some of those who really believed that any Englishman of high title would find favor in the eyes of the holders of the famous trophy, whether the challenge stipulated raceabouts or canoes, could almost see the boats at the line.



FLYING SHOE, A SMALL HYDROPLANE BUILT FOR THE MONACO RACES FOR WHICH A PHENOMENAL SPEED WAS CLAIMED.

One of the yachtsmen knew a member of one of the important committees of the club, and he said he would speak to him about it. He kept his word, and for two weeks this committee member carried the secret in his bosom, fearing that his bubble of hope would be pricked only too quickly when the proposition was put before the "proper persons." Yes, he really had hopes, this committeeman. Well, in good time, he submitted the matter to the men higher up and—and, alas! that was the last ever heard of the thing.

That was as far as the thing got. And so now when you hear or read that the Duke of Sutherland intends to challenge for the Cup, naming "boats of moderate size," just remember what I have said here—and wink the other eye.

For my part I am glad the project was nipped thus early. The America's Cup, after all, is a synonym of things brave and big and famous. The sight of two comparatively diminutive sloops racing off Sandy Hook lightship for the trophy for which Reliance and Columbia, and Defender and Vigilant, and Puritan and Mayflower, and Volunteer and all the rest of the noble line have contended would be likely to cause Neptune to stab himself with his trident and the mermaids to die of seasickness.

May fortune attend the naval architect, whoever he may be, who is experimenting upon a hydroplane for the defense of the British International (Harmsworth) Cup in the race between American and English motor boats next August! These experiments are the result of the report from London that a hydroplane, from designs by Linton Hope, is being built on the other side. The model of this hydroplane, say advices, has attained a speed of 40 miles an hour, which may well provide food for thought to patriotic motorboatmen of this country. For my part, I take less stock in this hydroplane gossip than I do in facts concerning the new challenger built at Twickenham for E. Mackey Edgar. She is at the present time in the Mediterranean, undergoing practical tests against the fastest boats in Europe. That is the thing that counts—practical tests of boat and engines. By the time she arrives here, provided she qualifies as a challenger, she will be sweetened down thoroughly and there won't be a crank or quirk of her "new-fangled" motors that her engineers wot not of. How will we Americans fare in that respect? Nothing much has materialized of prospective defenders in practical operation as yet; though, at a recent meeting of the Motor Boat Club of America, the matter was brought up of a syndicate boat for the club.

At this meeting, held on the evening of March 24, H. H. Melville was elected commodore; H. R. Sutphen, vice-commodore; James Craig, rear-commodore; Charles Francis, treasurer, and Walter M. Bieling, secretary, to serve during the ensuing year. The board of governors chosen for the same term were as follows: B. J. Steiner, John M. Shaw, Charles P. Tower, Frank D. Gheen, Morris Whitaker and J. H. Hoadley.

At this meeting the Huntington Bay course was unanimously chosen as the place of the coming International Motor Boat Cup Races, and August 20 as the date; though subsequent events lead one to believe that there is still diversity of opinion on this score, and that Larchmont is still making a strong bid for the event.

It was also announced that a subscription amounting to nearly $25,000 is assured for the building and equipment of a new defender for the International Cup, and it was moved by Mr. Hoadley that a committee of five be appointed by Commodore Melville to organize a syndicate to build the defending boat. The members of the Automobile Club of America's Motor Boat Committee will, it is stated, be requested to co-operate with the committee of the Motor Boat Club of America in arranging for the Huntington Bay races.

Peoria after the motor boat championship of the world! That's what they're talking about out in the Illinois valley, anyway. Well, as Marcus Brutus Snap used to say, "there's draft to that proposition." The report is that Thomas H. Webb and Robert D. Clarke would go into partnership in this project, and as both have plenty of money and could secure the very best designer of hulls and the most powerful and best working engines on the market, there surely should be at least equal chances of Peoria enjoying the focused gaze of the motorboat world. Success has a cumulative effect upon the human mind. The more we have, the more we want. So with Peoria. We heard nothing of this glowing project in regard to the world's championship until after Peoria had secured the next regatta of the Western Power Boat Association in August. The contest lay between Detroit and the Illinois city, and Peoria had the bidding all its own way. The business men of the city have raised $1,200, with more to come, and the two days of racing will see many extraneous incidents, notably an aeroplane flight. In his address to the convention, Commodore Webb made a ringing speech, upon which we reserve comment.

"The Western and Mississippi Valley Associations," he said, "control the motor-boat-racing situation of the West. We will make our own racing rules, and we will stand for no dictation from the American or the National Associations, which have practically no racing fleets and know nothing of Western conditions. If they do not care to conform to the Western rules they can stay out of it, for these two associations can control the sport west of the Alleghanies, and propose to do it." Brave words these, and bravely uttered. Provided the rules be good and comprehensive and work out practically, surely no one will object seriously. Come to think, if the rules, as formulated, comprise all these qualities, associations from other sections may be tempted to steal a few of them.

In my opinion, George R. Le Sauvage, president of the Yacht Racing Association of Gravesend Bay, uttered words which officers of all yachting associations might bear in mind upon the occasion of the annual meeting of the Gravesend Bay clubs when Mr. Le Sauvage was re-elected to his office. I refer to his reply to the criticisms of the apparent inactivity of the association. He admitted the charge, but said he believed it to be for the good of the clubs concerned, since the main function of the union was to draw up racing dates and try as far as possible to promote harmony among the organizations enrolled in the association. That his remarks were well taken was evidenced by the fact of his re-election. Let me say that a president who can report that throughout a season the association of which he is the head has been able to maintain harmony among the various clubs is entitled to all praise and no criticism at all. It is no easy matter to

TIMANDRA, MASSACHUSETTS BAY 31-FOOTER. IT IS REPORTED THAT A NEW BOSTON BOAT OF THIS CLASS HAS CHALLENGED FOR THE MANHASSET BAY CUP, WON LAST YEAR BY WINDWARD.

so adjust racing dates as to please everyone, as proof of which I call to mind the trouble upon Long Island Sound two years ago, which resulted in the withdrawal of the New Rochelle Yacht Club from the association of Sound clubs. No; when Mr. Le Sauvage said there had been harmony he said a great deal, and there is no doubt that a majority of the delegates present at the meeting appreciated that fact. A fine move was the decision to request the secretaries of the different clubs to send them lists of motorboat owners. When these names are gathered, a meeting of motorboat men will be called to see if it is not possible to arrange some plan whereby power craft can be raced on Gravesend Bay each Saturday. This bay offers splendid facility for speeding, and being in every sense of the term a bight, the waters even on days of high winds are not very rough. The advantages this body of water offers for motorboat speeding, in fact, has often been spoken of.

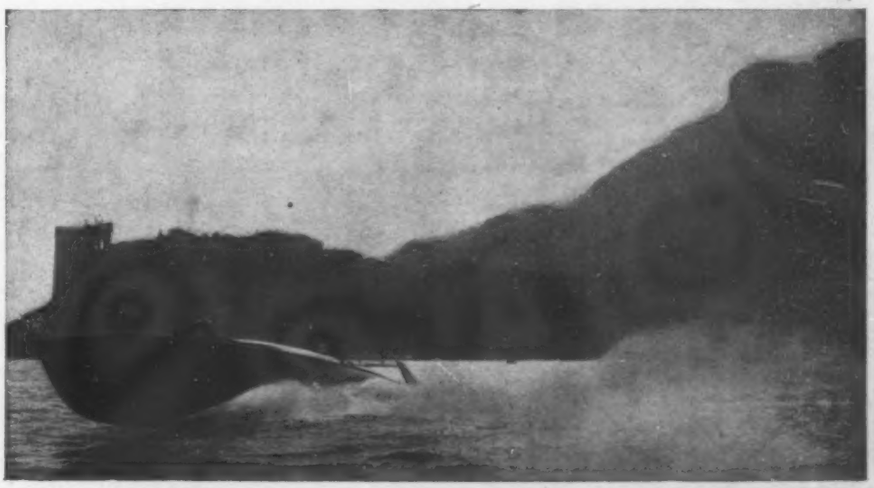
In connecting with a foregoing paragraph concerning the meet for the Harmsworth Cup I neglected to state that some newspapers are plugging Huntington Bay as a place for the contest. It might be added that these papers do not fail to mention the proximity of a restaurant to this course, where everybody "would be taken care of." As I have pointed out before, the only trouble with this course is that only those who own automobiles or yachts can conveniently get to the place. Why not let the public in on it by selecting a course accessible for every one? If motorboat racing in this country is ever going to shape up as a great national sport it will be because the public becomes interested. And if the public does become interested, it does not have to be said that men who are not now active in the racing game would come forward with money and boats galore. The deed of gift states that the race must be held on sheltered waters. There surely must be places other than Huntington Bay upon which this great race can be held. As for me, I've hoofed that long stretch of dusty, hilly road from the car stables to the bay once too often already. Wherever it be held, let the place be decided upon soon, and all the arrangements as well. It is but fair to the British yachtsmen, and is a good way to avoid such criticism as was heard two years ago.

The election of Frank S. Hastings as commodore of that energetic and sportsmanlike organization, the Seawanhaka-Corinthian Yacht Club, cannot be too highly commended. Mr. Hastings is one of those Corinthians who possesses all the knowledge of a professional sailor. He has been a member of the Oyster Bay organization for fifteen years, and in that time has done much to foster the racing spirit which characterizes the club. When he goes abroad he spends a great part of his time on the bridge, many a North Atlantic captain being his friend. He was elected rear-commodore in 1901, and was again elected to that office in 1903, serving continuously to the present time. He could have been commodore long ago had he wished; his acceptance of the honor for 1910 means much to the club.

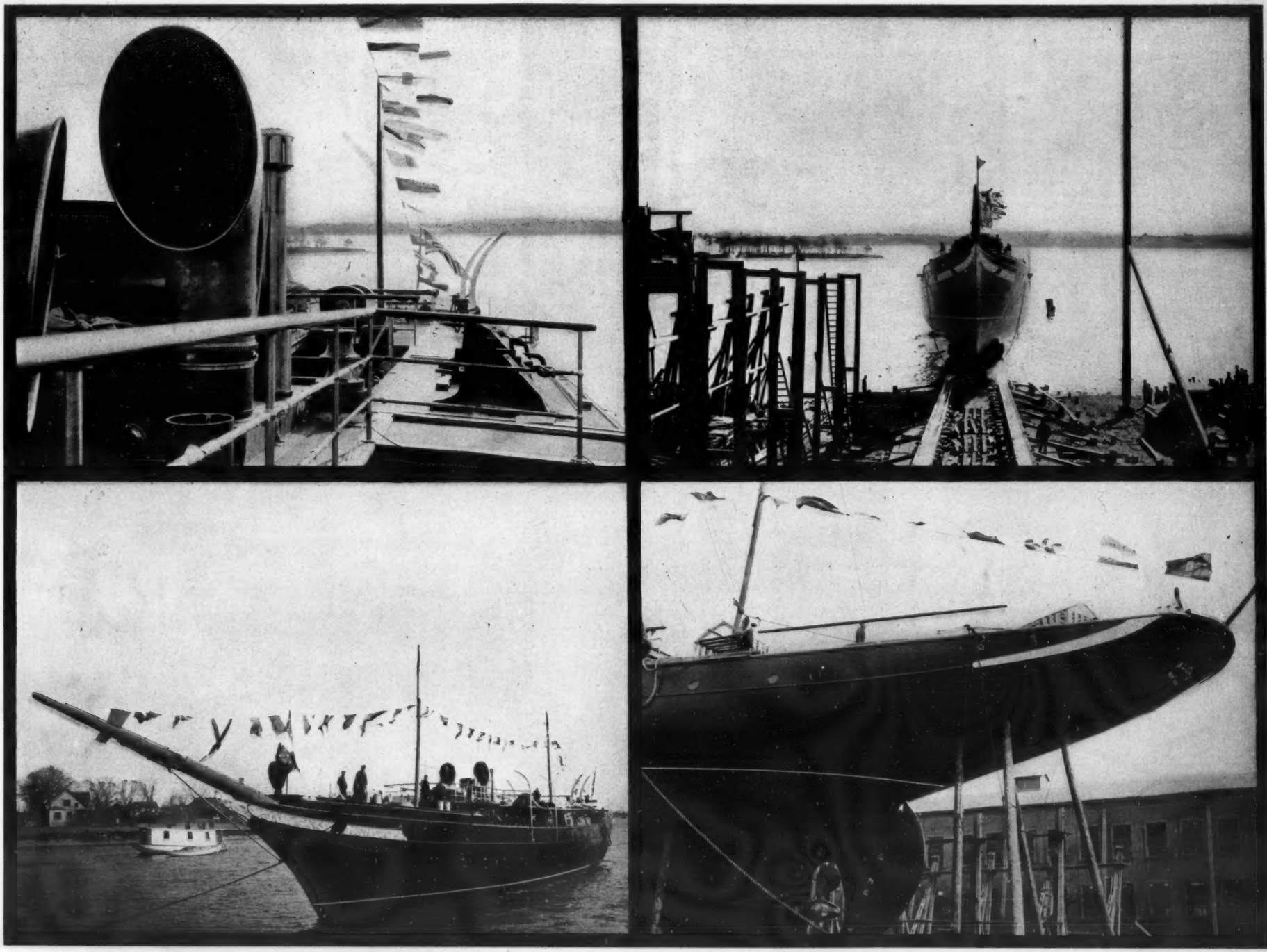
Now that Chicago yachtsmen have adopted the universal rating rule it remains to be seen what will be done with it. If it is worked out consistently and rigidly adhered to, the results should be worth while in the sense that any definite end wisely conceived yields something of good. Plans for the racing season are going apace on Lake Michigan, and correspondents speak glowingly of prospects of a banner year.

The results of the racing at Monaco are not all in at this writing, but the news that the Duke of Westminster's Ursula, formerly Wolseley-Siddeley II, again won the International Grand Prize for the 100-kilometer (62-mile) race does not come as a surprise. She is one of the fastest boats ever built, and there was nothing quite in her class entered in the event. Hydroplanes were again tried out, and a number showed very fast time. This is a type that is bound to be heard from in the future, and it would be well if more experimenting were done along that line in this country.

Word comes from Boston that one of the new 31-raters—building there for the class in which Timandra and Wianno, George Owen boats, had things so much their own way last season—is to come around the Cape this year and have a try for Manhasset Bay Challenge Cup, won by the Gardner-designed Windward last year from Naulahka, the new Herreshoff boat. This is good news. Windward is now owned by Richard Monks of the Indian Harbor Yacht Club, the present holder of the trophy, and will undoubtedly be in the series. It will be interesting to see how the new Owens boat (we presume the new boat is from his board) will stack up against the latest creation of Wm. Gardner.



URSULA, FORMERLY WOLSELEY-SIDDELEY II, WHICH AGAIN WON THE INTERNATIONAL GRAND PRIZE AT MONACO.



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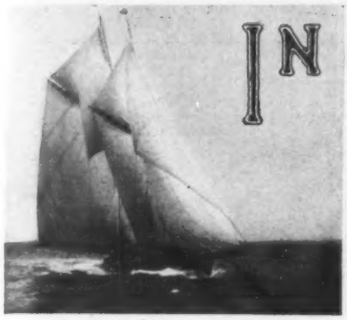
THE LAUNCHING OF ALOHA, COMMODORE ARTHUR CURTISS JAMES, AT FORE RIVER, QUINCY, MASS.

The Evolution and Development of the American Fishing Schooner

A SHORT HISTORY OF THE CRAFT NOTED THE WORLD OVER FOR SPEED AND SEAWORTHINESS, AND THE IMPORTANT PART THE GASOLENE MOTOR NOW PLAYS IN THE INDUSTRY. DESIGNING AND BUILDING HAVE REACHED A HIGH STATE OF PERFECTION

By ALBERT COOK CHURCH

Drawings by the Author



THE LAUNCHING OF ALOHA, COMMODORE ARTHUR CURTISS JAMES, AT FORE RIVER, QUINCY, MASS.

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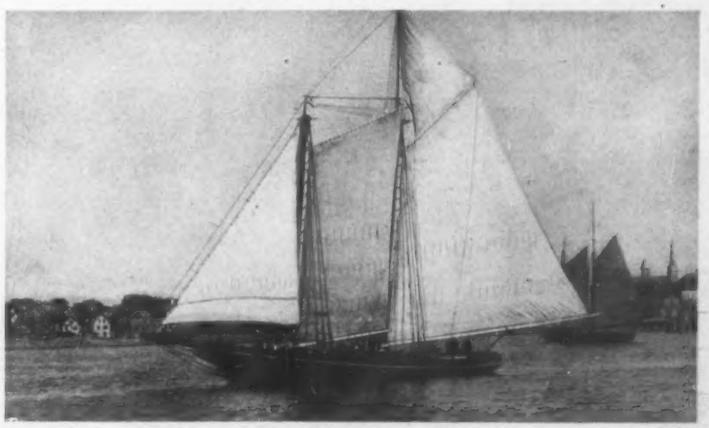
IN its present state of high development the up-to-date, modern-designed American fishing vessel represents a type that, for speed and seaworthiness, is unsurpassed by any in the world. Since the first crude efforts of the early Colonial shipbuilders were produced over 250 years have elapsed, and during that interval many important changes have been made, both in model and rig. The American fishermen were ever progressive, being constantly on the watch for improvements, and adopting at once any changes that tended to increase the speed and strengthen the vessels or add to their utility. The rapidity with which the gasolene motor has found its way into the fleet is but an instance of this.

As a result of the early tendency of settlers to engage in the fisheries, a fleet of vessels was employed as soon as the country was occupied. According to the old records, snows and ketches were employed in the Bank cod fisheries when the business was first established, and sloops also were engaged in fishing at an early date, a distinguishing feature being that many, if not most of them, carried square topsails. The ketches were smaller than the sloops, and were probably employed to a greater extent than any other type at that period. They were open boats, with two masts, the mainmast being nearly amidships and a second and smaller mast near the stern. In model they were full-bowed, round-bottomed craft, built full and heavy, and it is probable that most of them carried lateen sails, with square sails set above them.

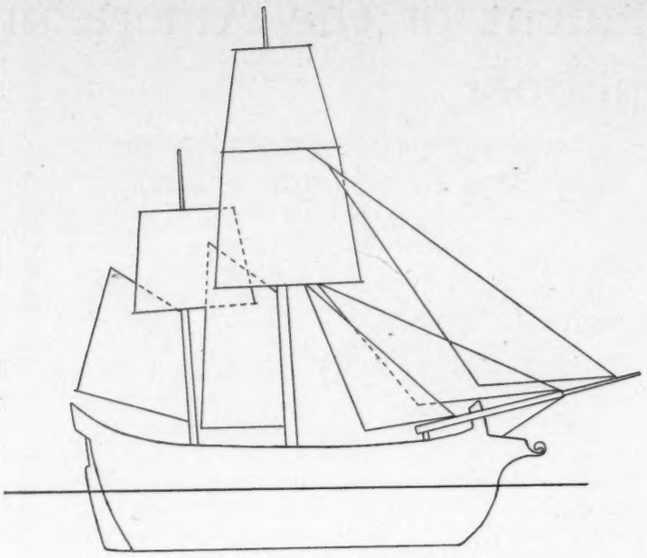
In the records of Massachusetts Colony, 1680, the statement is made that "We have eight or ten ships (probably snows) of one hundred tons or more, and about forty or fifty fishing ketches of betwixt twenty and forty tons." The snows were generally larger than the ketches, square-rigged on two masts, and having a small jiggermast at the stern. The ketch rig, though popular in the seventeenth century, was particularly unsuited to the variable winds of the New England coast, as the lateen yards then used had to be lowered and changed to the opposite side of the mast when tacking, involving much labor. This was extremely undesirable, as it was imperative that they should be able to change their course at short intervals and to sail equally well on either tack without the necessity of lowering and shifting the sails.

This, no doubt, caused the fishermen to cast about for a more suitable rig, and the first marked improvement in American fishing vessels was the development of the schooner rig early in the eighteenth century. The incident which gave to this rig the name of schooner is thus described: "Captain Andrew Robinson, of Gloucester, built and rigged a ketch, as they were then called, masted and rigged it in a new and peculiar manner. When launched, the peculiar motion she made as she glided into the water from the stocks caused one of the bystanders to exclaim: 'Oh, how she scoons!' Robinson instantly dashed a bottle of rum against her bow and exclaimed: 'A scooner let her be.'" This event happened at Gloucester in 1713, according to the historical account. There is, however, considerable doubt as to whether the rig was original with Captain Robinson, although the name may have had its origin in that instance, there being evidence to the effect that the rig existed abroad before that period some fifty years at least.

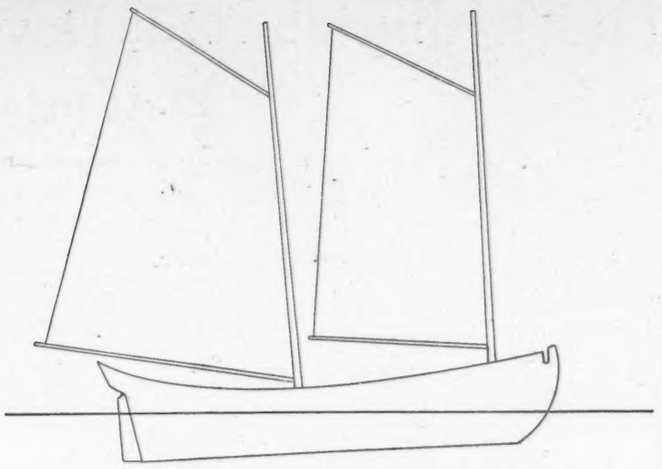
Undoubtedly the rig was a novelty for those waters and a great improvement; it could sail much closer to the wind than the clumsy ketches, was easier to handle, and soon became very popular. About seventy of these "scooners" were owned in Gloucester in 1741, and many of them were of 50 tons or more, suitable for use on the Grand Banks and other distant fishing grounds. They were of nearly uniform model, with bluff bows, high stern and kettle bottoms, presenting the greatest possible contrast to the graceful clippers of the present day. The early schooners were usually without bulwarks forward of the quarter deck, or, at most, with a plank spiked to the top timbers, because at that time it was considered unsafe to prevent the unobstructed sweep of water across the main deck. The quarter deck, being so much higher, was comparatively dry when the schooner would be all awash forward; consequently, the men stood there to fish in rough weather. The cabins at that time were roughly finished; the heavy hemp cables were hove in by a rude log windlass, worked by handspikes, and the steering was done by a long wooden tiller, none of the modern steering devices used on fishing vessels having been invented at that time. The schooners employed in the Grand Bank cod fisheries from New England previous to the War of Independence were all full-built, round-bodied craft, specially noted for having short and high quarter decks, from which peculiarity they



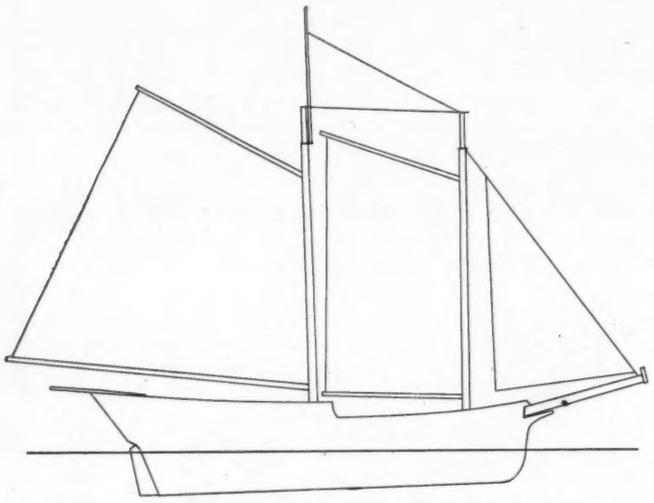
A GRAND BANKER OF 1885.



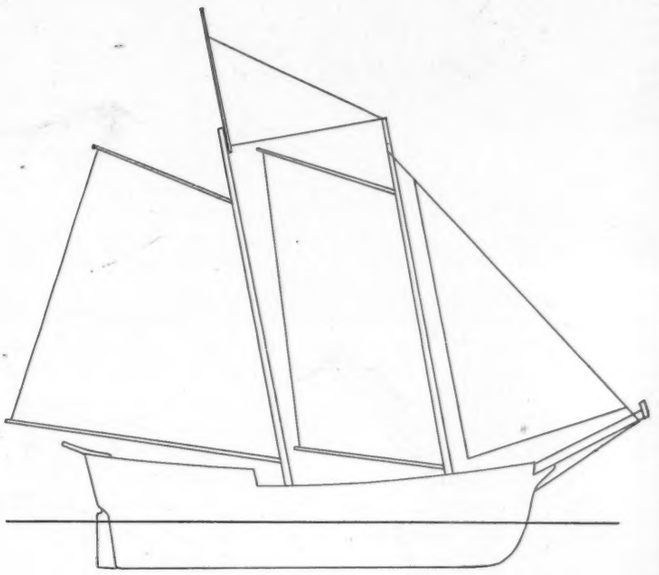
KETCH, 1650-1713, ABOUT 55 FEET.



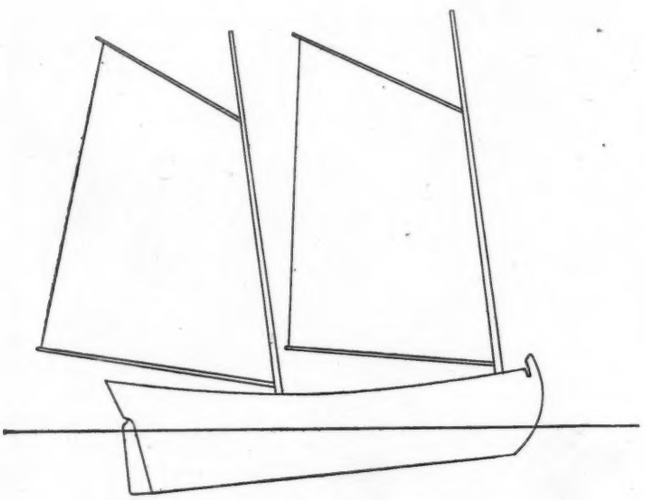
DOGBODY, 1800-1810, ABOUT 36 FEET.



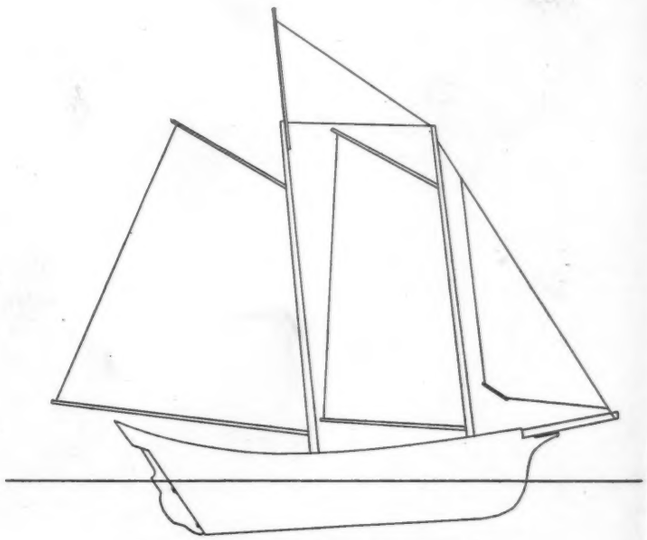
EARLY GRAND BANKER, "HEELTAPPER," 1741, ABOUT 65 FEET.



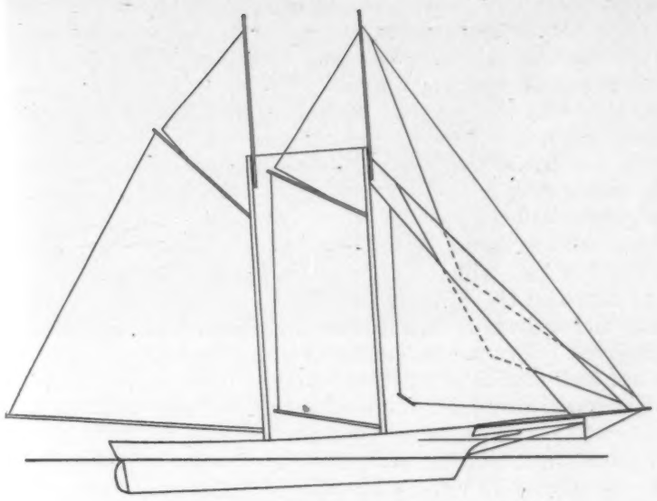
PINKY, 1810-1830, ABOUT 48 FEET.



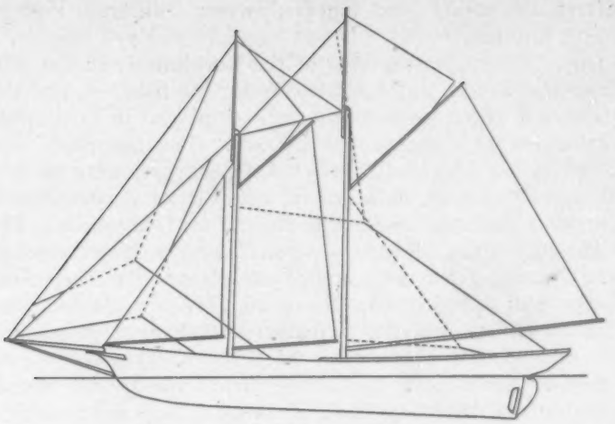
CHEBACCO BOAT, 1780-1800, ABOUT 34 FEET.



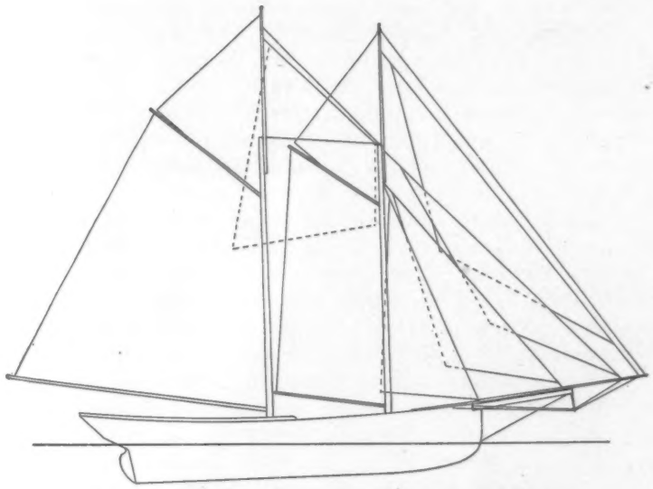
LOW QUARTER-DECK SCHOONER, 1830, 65 FEET.



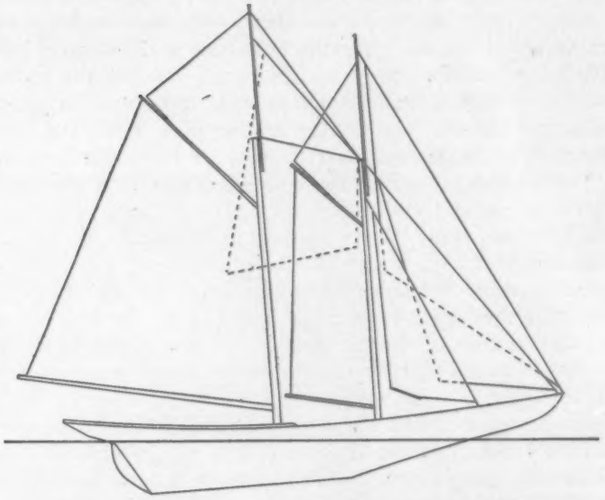
CLIPPER OF 1870, 75 FEET.



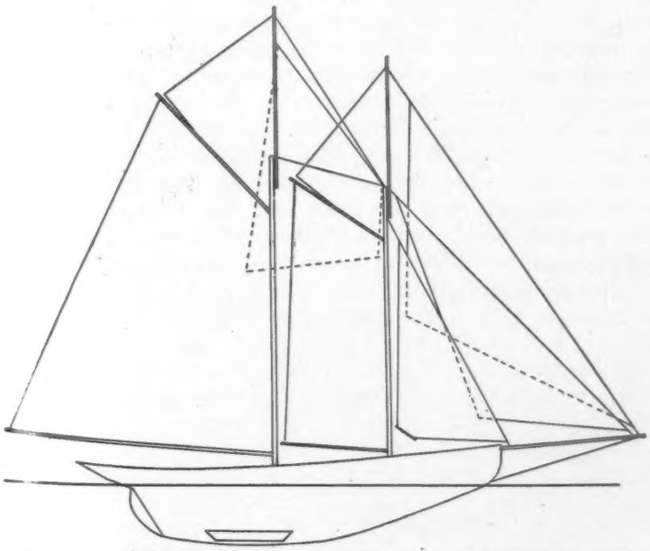
HELEN M. GOULD, 1900, THE FIRST 125-FOOT GASOLENER.



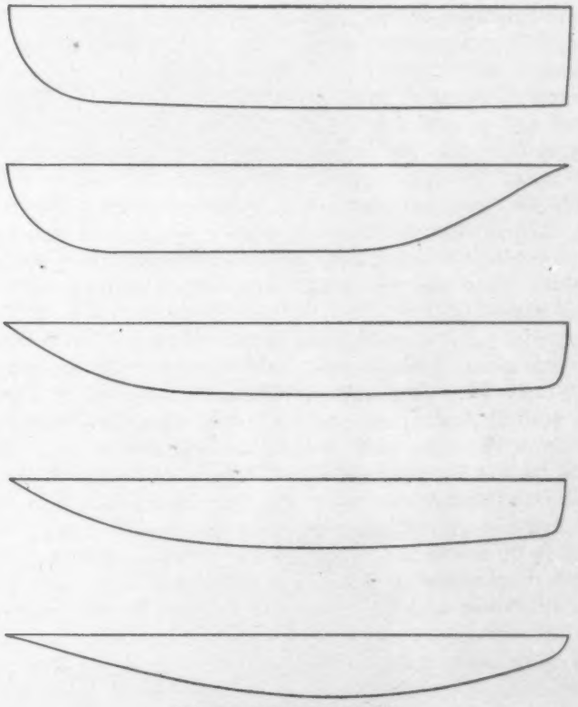
GRAMPUS, 1885, FIRST VESSEL WITH A PLUMB STEM.



THE FIRST KNOCKABOUT TYPE OF 1902—HELEN B. THOMAS.



MASSASOIT, 1898, THE FIRST FISHERMAN TO CARRY OUTSIDE BALLAST.



HALF-BREADTH DRAWINGS.

Early Grand Banker, "heeltapper," 1741; pinky, 1810-1830; Romp, the first sharp-bowed craft, 1847; mackerel clipper, 1880; Massasoit, 1898.

were afterwards called "heel tappers," when a different type of vessel came into use.

The period embracing the War of the Revolution and the Embargo Act was a very unfavorable one for the fisheries, and the larger class of vessels which had been employed in the Grand Bank fishery were compelled to lie idle. The fishermen, impoverished by the long struggle for independence, were unable, after the peace of 1783, to build and equip large vessels; therefore, they provided themselves with smaller craft in which to fish on the grounds in the adjacent waters. These boats were called "chebacco" boats, from the name of the place where they were built—a part of Ipswich, now the town of Essex, Mass. The name has a striking similarity to that of a small vessel mentioned in the French marine dictionaries, the "Chabek"; but there is no doubt that our chebacco boats derived their name as here stated, and it is quite probable that, in rig and model, they were peculiar to Cape Ann and were first used in its waters. They had two masts, but no bowsprit, and were decked over, with the exception of a space in the middle, where there were two rooms across the boat nearly to the sides for the crew to stand in while fishing. The deck had no railing, and in rough weather the rooms were covered with hatches. The stem was the most characteristic feature of the chebacco boat; standing high above the bow, generally painted bright red, and because of its fancied resemblance to an ancient battering ram, a vessel of this type was often called a "ram's head boat." The stem served the specific purpose of a bitt head, over which was placed the eye of the hawser by which the boat was secured to its mooring. At first these boats were sharp at both ends and averaged about ten or twelve tons; but later they were built larger (though rarely so large as twenty tons) and decked, while many were made with a square stern and nick-named "Dogbodies." About 1800 some two hundred of these craft were engaged in the shore fisheries. The growing importance of this industry created a demand for an increase in the capacity of the craft engaged in it, and about 1810 the size of the sharp-sterned craft increased, a bowsprit with a jib was added, and a new style of fishing vessel, the "pinky," was the result—a type of vessel celebrated for its seaworthiness and extensively employed in the fisheries for several decades. The pinky's chief characteristics were a full, round bow, with plain gammon knee head, long floor with kettle-shaped bilge, and a well-formed run, making their model somewhat on the familiar cod's head and mackerel tail principle. A special feature of these quaint craft was the extension of the rail and bulwarks aft from the stern, sweeping upward rather sharply in a graceful curve until they met and fastened to a narrow, raking V-shaped transom, formed like the stern of a dory, which was hollowed out like a crescent at the top to serve as a resting place for the main boom. This was the "pink" from which the type derived its specific name.

The original old-style pinky was without bowsprit or shrouds, had two masts and hempen sails, and was from 12 to 25 tons burden. They were first built at Chebacco, now called Essex, but later built at Annisquam also. Captain Epes Davis built the first one there about the year 1800 on the chebacco model. This pinky was 20 tons burden and named Dromo. She had the usual features of the pinky—two open standing rooms to fish in, one forward and one aft, with hatches to cover them, and was without shrouds or bowsprit. Many of the pinkies were built several miles from shore, and in the winter when the roads were covered with snow and ice they were dragged to the water on stoutly-built runners by oxen; thus when spring came they were ready to be rolled into the water and floated from the cradle by the rising tide. These boat haulings, as they were called, were quite common at one time, and it is said that on one occasion a pinky of 55 tons was launched in this manner. Some of the pinkies were as large as the ordinary fishing schooner, with spars in proportion. One craft, considered to be a monster at that time, was described as being an old-fashioned standing-room pinky of 42 tons, with timber heads coming up along her sides 6 or 8 inches, around which a plank was bent to serve as a bulwark. She had two standing rooms, a fore cuddy with a brick chimney and fireplace, carried fore and aft sails, and had neither shrouds nor bowsprit. She had hemp sails, then called raven's duck, cotton duck being unknown at that time, and carried an arrangement called a scout horn to wet them down when the weather was moderate. The scout horn consisted of a pole about 15 feet long with a leather pocket for holding water at one end to throw on the sails to close them up, as the hemp was very porous and lacked the wind-holding properties of the modern cotton duck. They cooked in the old-fashioned way, in a brick fireplace with a brick chimney and a wooden smokestack or funnel, which was intended to carry off the smoke, but did not always do so.

The later-built pinkies were fitted with shrouds and a bowsprit, and were very reliable sea boats. Although some square-sterned vessels were employed in the meantime, the pinky remained in general use until about 1840, whn the low quarter-deck, but still full-bowed schooner, was extensively introduced.

The requirements of the mackerel fishery made swift-sailing vessels a necessity, and about 1845 ambitious builders began to make some changes. The Bankers of 1845 had moderately sharp bows for the period, and were well designed for riding at anchor and for seaworthiness, but were slow sailers. Later, they were built sharper to attain greater speed when employed in the mackerel fishery, and were called clippers.

Vessels had been built along the same model for years, when one builder, more progressive, suddenly departed from the old ideas by sharpening the bows and hollowing the run. Naturally, these radical changes created a great deal of discussion, both favorable and otherwise. It was not until 1847, however, that the first really sharp vessel, the Romp, was built; and it was a matter of record that men were afraid to go in her, although when once tried she was found to be an excellent sea boat. She has since made the passage around Cape Horn to California, and it is claimed by some that this change in the model of our fishing vessels was the source from which sprang the famous American clipper ships which soon after this period made our merchant marine so justly celebrated.

During the period of change from full-bowed to sharp vessels it was believed to be unsafe to build a vessel very sharp on the rail. It was thought that, with a full, rounding bow on top and much flare below, a vessel would be prevented from plunging as deep in the water as she otherwise might do. Later developments proved this theory to be incorrect, and that a vessel with flaring bow was not as good as with straighter top timbers. The intense rivalry between the fishermen in the matter of speed resulted in the production of many diverse forms of schooners, each designer striving to outdo others. The tendency of the times about 1850 was to follow the cod's head and mackerel tail principle. Generally they had fairly easy lines forward, but with the bows widely flaring at the top; their greatest beam was usually about one-third to two-fifths of their length from the stem, and a gradual tapering from that point toward the stern. They were rather straight on deck, and had a heavy drag, being shallow forward and deep aft, with sharp floors—in this particular, as in others, bearing a sharp resemblance to the Baltimore clippers. A striking feature on many was a long, pointed cutwater or head, having a gilded fiddle head at its extremity and carved and gilded trail-boards along the sides. It was also customary to have gilded mouldings on the sterns, and in some cases this ornamentation was very elaborate. This class of vessel was called "sharp-shooter" at that time. Unfortunately, however, in the effort to attain speed and great initial stability in order that

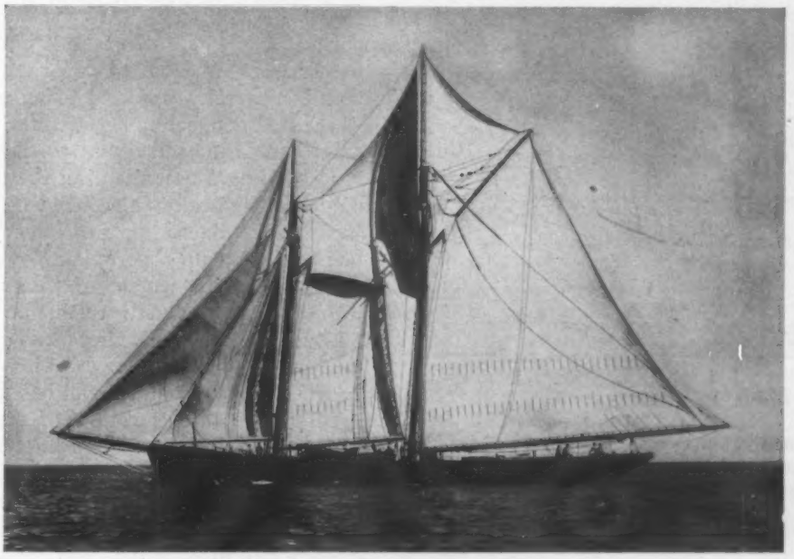
THE NARROW, GRACEFUL STERN OF THE MASSASOIT.

much sail could be carried with a comparatively small amount of ballast, a rather shallow, extremely sharp vessel was produced, with great breadth of beam, upon which the stability mainly depended.

This type continued to be popular, and for many years previous to 1885 the tendency was to build vessels employed in the deep-sea fisheries wide, shallow and sharp, the object being to obtain speed and sail-carrying power, as that was believed necessary to produce a swift sailing schooner. However, this not only failed to produce the best results in speed, but was highly dangerous, for vessels built on such principles were liable to capsize in a gale or be tripped by a heavy sea, and, as the center of gravity was not sufficiently low to enable them to right again, the result was that in such cases schooners generally filled and sank with all on board. In the ten years elapsing between 1874 and 1883, inclusive, Gloucester alone lost eighty-two schooners by foundering at sea, costing the lives of 895 fishermen.

While an increase in the depth of these vessels was the most important object to be attained, there were, nevertheless, many other objectionable features besides shallowness in the typical clipper schooners of that period. Almost without exception a vessel of that type was built very wide aft, with a heavy, clumsy stern and flat counters; the two masthead were of the same height above the waterline, and they carried a large jib extending from the bowsprit end to the foremast. It is evident that these features were objectionable, and in 1885 Capt. J. W. Collins, of the Fish Commission, prepared designs for a schooner in which it was proposed to eliminate these features. The Grampus, as she was called, was a radical departure from the vessels commonly engaged in the New England fisheries prior to her advent, and her superiority in safety, speed and other desirable qualities was demonstrated. She differed mainly from the typical fishing schooner of that date in being from 18 to 24 inches deeper, having 6 to 10 inches less beam and an easier after section. She had less proportional width aft, more rake to stern, and had the pilot boat bow, with straight stem above the waterline. Changes were also made in the head rigging, a stem staysail and jib being adopted in place of the large jib then commonly in use.

There was a marked improvement in the vessels following this period, special attention being given to the attainment of the maximum speed, due chiefly to the imperative demands of the market fishery. The best skill of several eminent naval architects was devoted to the development of fishing schooners, and their services proved of inestimable benefit. Prominent among them was the late Edward Burgess, the vessels designed by him being a decided improvement over any previously built, and some of them, notably the Fredonia and Carrie Phillips, were so speedy that he became famous as the foremost designer of fishing craft at that time. Others prominent in designing fishermen of this period were D. J. Lawlor, of Boston, a noted designer of pilot boats, who modeled the Harry Belden, winner of the famous fishermen's race of 1901; and Captain George M. McClain, who modeled the schooner Lottie S. Haskins, a smart little vessel of 70 feet, winner of the first prize for small vessels in the same event. The Carrie Phillips was of the plumb stem type and the first vessel to be fitted with a pole bowsprit, doing away with the long jib-boom in common use at that period. When the Fredonia was built she was matched for $6,000 a side against the fast Boston pilot boat Hesper, winning the match handily; and on another occasion she is said to have logged 13 miles per hour for twelve consecutive hours. So fast were these Burgess models considered that the term "flying fishermen" was applied to the type and continues in use to the present day.



A FINE EXAMPLE OF THE MODERN FISHERMAN—THOMAS GORTON.

Although the cost of building such schooners was somewhat increased in proportion to their carrying capacity, the additional profit to be obtained by the ability to market the catch in the briefest possible time was so fully demonstrated that comparatively little was thought of a considerable increase in expenditure provided a vessel could be produced which would outstrip all rivals.

The majority of vessels built during the following eight years were moulded along the general lines of the Burgess flyers, which proved so successful, and it was not until 1898 that any remarkable changes were made. During that season, however, the first of the modern round-bow schooners were built, several being constructed at the same time along similar lines. The Massasoit, a small schooner of 32 tons, may be taken as a representative craft of this type as they were originally built, and was, perhaps, the more notable by reason of her graceful lines

(Continued, page 456)

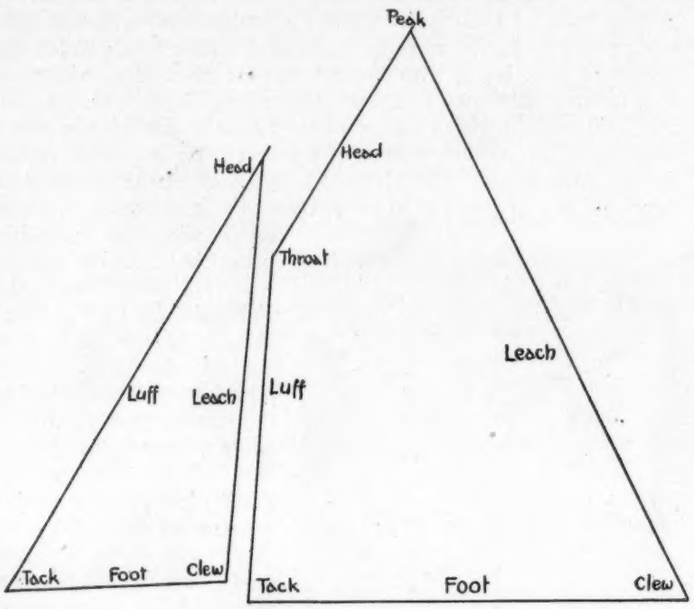
GASOLENER ELIZABETH SILSBEE, EQUIPPED WITH 300-HORSEPOWER MOTOR, RACING UNDER POWER FOR A SCHOOL OF MACKEREL WITH SEINE BOATS IN TOW.

The Use and Abuse of Sails

By GEO. W. ROBINSON

IT'S the sails that make a boat look "yachty," just as the clothes a man wears adds to his appearance. You have seen a Gloucester fishing schooner with a brand-new, clean suit of sails that at a distance you mistook for a yacht; but you never mistook the dirty, "nigger-heeled," square-headed sail of an old working schooner for a yacht.

Some yachts, to be sure, do go around looking exceedingly "sl oddy" as to their sails, but you may rest assured their owners look covetously upon the white canvas of the other craft, and would have a new suit if they could.



Names of different parts of a sail.

It is about the care that should be taken of a new suit of sails that I am going to talk to you, and one of the first rules you should learn is to keep your sails clean. With the smoke from chimneys and steamboats and the dust that blows from the shore, you will have trouble enough in keeping a sail white, to say nothing of the black stain called mildew that is sure to attack them if they are not kept properly dried.

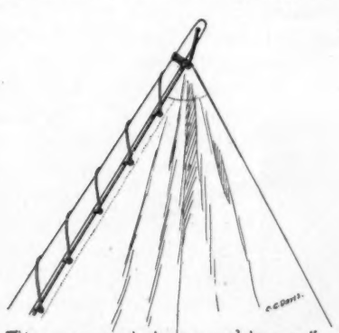
Before you open up the bundle containing your new sails have your decks or cabin top washed off and dried, for dragging a brand-new sail over a dusty deck is a piece of carelessness no good sailor would be guilty of. Canvas will smut up with dirt so quickly that sail-loft floors are kept as clean as wax, and the sails are rolled up in heavy wrapping paper and then sewed up in old, stout sail cloth before they leave the loft.

Some amateurs make a great mess of opening a bundle of sails. Each one of the crew grabs a corner and begins to pull it into a tangle. The sailmakers are careful to fold and roll the sail up neatly, and you will find, if you don't try to be in too much of a hurry, that you can unfold it in such a way that the head or foot will be laid out straight. If the foot is on top, roll the sail over and get at the head, as the part of the mainsail that laces to the gaff is called.

The shape of the corners should tell you what part of the sail it is, but for the benefit of amateurs the sailmakers to-day generally stencil the name on the canvas in black letters, the peak being the outer end of the head of the sail at the outer end of the gaff and the throat the inner end at the jaws of the gaff. The corner where the boom joins the mast is the tack, because in old-time boats this was always hauled tight by a tackle to the deck, called the tack tackle. In many old pictures of English cutters you will see where this tack is hoisted up the mast, relieving the pressure about equal to one reef; but on American sloops this tack is generally shackled to an eye or a bale at the gooseneck, as the iron connection between the boom and mast is called. The outer end of the sail is marked clew.

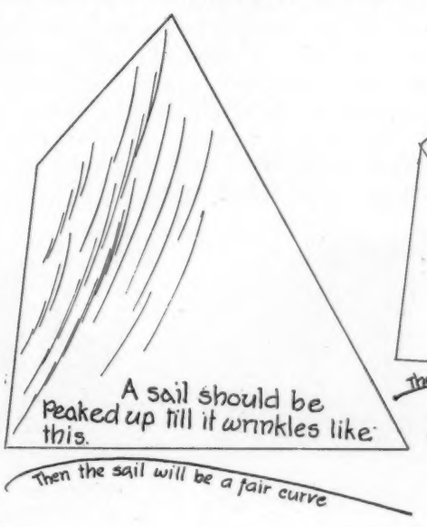
In bending a new mainsail the throat should be made fast first and then the peak hauled hand-tight and lashed with either small white cotton line or, on small yachts, white marlin, and, on larger ones, small hemp rope. Some owners treat their sails as if they were made of tin instead of a thousand little cotton strings woven into sail cloth that will stretch, and they pull the head of a new sail all out of shape when they bend it. To prevent this, sailmakers tie a tag to each sail, on which is written the length the sail should be when bent to the gaff and boom. Only one amateur in a hundred will go to the trouble of measuring off this distance carefully unless he is experienced enough to know when a sail is tight enough. The same holds true with the foot of the sail.

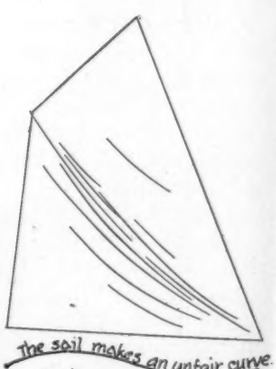
When the sail is fast to the outer and inner ends of the gaff, lace the sail to the gaff with small cotton line, not simply passed around and around the spar, but hitched every time it goes through a grommet in the sail. When the gaff is peaked up high, as most modern sails are, this method prevents all the weight of the sail from hanging on the outer cringle, each hitch holding

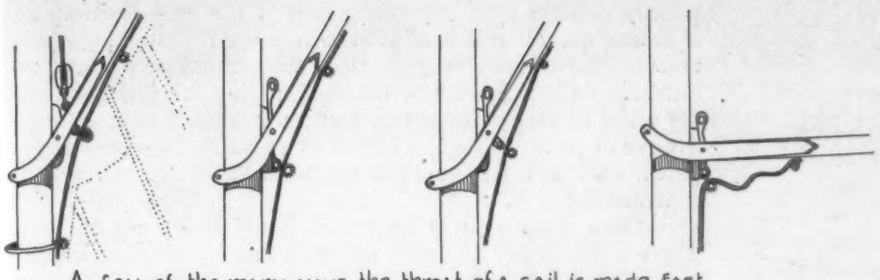


The wrong way to lace a sail to a gaff all the weight of the sail hangs on the cringle and wrinkles the sail badly

The right way to lace a sail to a gaff. the lacing is hitched at each grommet hole, distributing the weight of the sail evenly







A few of the many ways the throat of a sail is made fast
Shackled to an eyebolt in gaff. Shackled to lower end of tumbler. Shackled to hinged bale in gaff. Slack sail should be left at the throat.

its proportion of the sail and preventing a lot of wrinkles radiating from the peak. The only objection to such a lacing is the fact that the line is apt to chafe in two and let the whole head of the sail come adrift from the gaff. I once won a long-distance yacht race because the only boat ahead of me had her head lacing part when she only had a mile more to go to windward; but with the sail made fast at the two ends of the gaff and his bridles to the peak halyards in towards the middle, his gaff buckled like a coach whip and he had to lower away and relace his sail. By that time we had him licked. To prevent this, it is a good plan to seize the head at each grommet hole to the gaff with white marlin, but be sure that your knots don't untie, for white marlin is very springy.

Then hoist up the sail until you can seize on each mast hoop, hoisting the sail clear up if it is a calm day; if not, just raise the throat and trice up each hoop as you make it fast, so that you are clear to work on the next one. Then shackle the tack fast to the eyebolt, or bale on the grommet, or seize it fast with marlin if there is no shackle, haul out on the foot and seize and lace that fast.

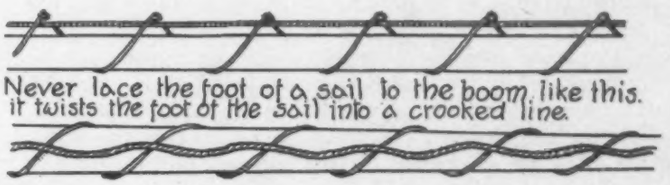
There are many different ways in which this lacing that holds the foot of the sail to the boom may be rove; the round and round lacing is wrong, as it tends to twist the sail at each grommet square to the line of the lacing, with the result that the foot of the sail becomes a corrugated surface that extends up a couple of feet or more into the body of the sail above and makes a saw tooth surface very detrimental to speed. A better way is to put individual stops around the boom at each grommet; these stops are held in place by opening the strands of one end and passing the other end through it so that they cross to opposite sides, and then around the boom. This prevents their falling out when the knots are loosened in unbending a sail.

A more common practice is to screw a line of screw eyes along on the top of the boom and stretch a small wire rope through these and through small brass grommets seized fast to the foot of the sail so they all open in a fore-and-aft line. The only trouble with this method is that some do not space the grommets in the boom so as to properly allow for the stretch of the foot rope, with the result that the sail is pulled out of shape in one spot by a grommet in the sail fetching up on an eye in the boom.

The screw eyes should not be put in a new boom until the last thing—not until the sail has been stretched along on the foot and the spots for each marked. Beginning midway between the grommets near the mast, the screw eyes should be spaced farther apart than the grommets are by about what the stretch will be when the sail has been pulled out as far as it will ultimately go.

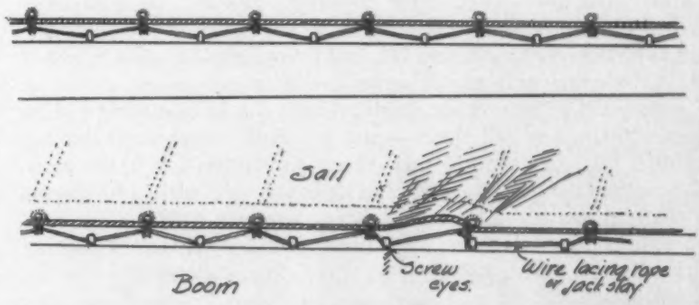
To prevent all this trouble of possibly scarring up the boom by having to replace the screw eyes, various forms of tracks or slides are used, some of wood and some of metal, with sliding metal hanks not unlike jib hanks in their action, so that they space themselves right as the sail shrinks or stretches. It makes a very neat-looking rig, and the sail is brought close down to the boom—in some cases too close, for it cuts the knuckles when trying to pass reef points in shortening sail. Another point to be observed in attaching the throat of the sail is to see that enough slack is left so that, as the gaff is peaked up, the rope and sail between the throat cringle and first grommet on the gaff will not be stretched out of shape. Cases have occurred where the rope has been parted by the great leverage the gaff exerts at this corner when the sail has been lashed to one of those patent throat tumblers with an iron rod, into one end of which the throat block shackles and into the lower end the throat of the sail. If the sail is made fast with no slack left when the gaff lies horizontally (as it generally is when bending on the head of a sail), when it is peaked up this distance increases considerably and is liable to stretch the sail badly. It is better to pucker the sail up and have too much slack when first bending than to have too little. In fact, when the sail is set the peak should always be hoisted until the cloth shows wrinkles running up and down from the peak to the tack and there is practically no strain on the throat cringle.

The weight of the sail hangs from the peak and gaff, and that brings up a consideration of that spar. I was about to say of all the spars on a yacht the gaff is the one you have to be most particular about, but that would be like saying the base string of a violin requires the most attention. Every string of a violin has to be in perfect tune, and so it is with a yacht. Every spar, sail and stay must be set up just so hard or so slack to properly work

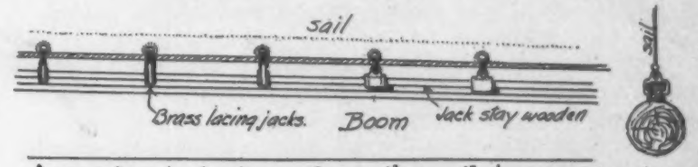


Never lace the foot of a sail to the boom like this. It twists the foot of the sail into a crooked line.

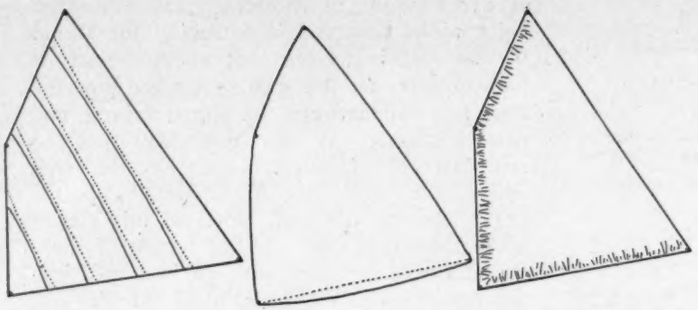
A better way is to put individual stop around the boom at each grommet hole.

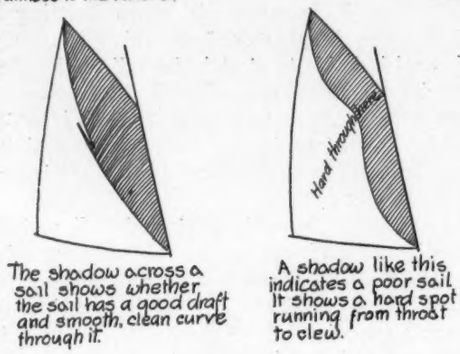


The trouble with lacing eyes is as the sail stretches the grommets and eyes interfere.



A wooden jack stay allows the sail to come and go.


Broadseaming is widening the seams near the edges to give fullness to the middle.
The "roach" in a sail is the curve on the edges
Roping in consists of gathering in the sail as it is sewed to the bolt rope.


Hard throughout
The shadow across a sail shows whether the sail has a good draft and smooth, clean curve through it.
A shadow like this indicates a poor sail. It shows a hard spot running from throat to clew.

in harmony with a certain boat, and just as every violin has to be individually tuned up to produce harmony, so every boat has to be "tuned up."

Now, a mainsail hanging its whole weight on a gaff must be properly supported by the peak halyards or bridles. If too much support is given to the middle of the spar the ends will bend down, and while the sail through the middle is pulled taut the cloths along the leach are slackened. If the halyards pull on the end of the gaff the outer cloths are pulled too tight and the spar sags down in the middle and slackens the cloths, producing an excessive bag in the middle of the sail. The same principle holds true of the boom, and as every boat has spars of varying stiffness or limberness, and halyards and sheets are rigged in an endless variety of ways, no one, unless he be an experienced man and has the case before him, can say exactly what is the matter with this or that sail.

More sails are spoiled after they leave the sail loft than one imagines. The sailmaker's duty is to use as good a quality of canvas as the owner will pay for, and some firms have made reputations by using only one superior grade of canvas and refusing to make sails of any other stock. Everyone knows what a difference there is in sail cloth—some will pull corner ways like an old dish rag; others hold their shape far better. It is the man who realizes the quality of the sail he has to deal with, and knows by the way his spars bend, and how to rig his gaff, bridles and the pull of his main sheet to make that sail produce the proper curve to push his boat at her best speed, that is classed as the expert boat sailor.

Aeronautics is now teaching many what the proper curve is for the planes of a flying machine, the face of air propellers and the curve that a boat's sail should have to give the best reaction and forward push from the wind's pressure. Unlike the propeller of a motor boat, that has one speed at which it develops its maximum efficiency, a boat's sail is more on the principle of a reversible propeller where the pitch can be increased or diminished to suit the speed of the wind.

Too many people think that a sail, when once set, needs no attention other than that of pulling in or letting out the sheets; but in that they are sadly in error. Every change in the wind's velocity requires a corresponding shift in the sail—sweating up to flatten the sail in a hard blow on the wind or slacking down to make the sail more baggy in light airs. Some people have an idea that a tin sail would be the ideal driving surface, but nothing could be farther from the truth; and often a new, springy, live sail of cloth will make a winner of a boat that has been a persistent loser with an old sail in which all the resiliency has been stretched out of it.

Just how much curve or belly there should be to a sail, and just where it should be, is a point on which many yachtsmen are becoming more and more familiar. It is a point upon which days have been spent in hot discussions, but how the cloth is cut and sewed together so as to produce this desired curve is part of the sailmakers' art. It is produced in three ways, viz.: broad-seaming, roaching and roping.

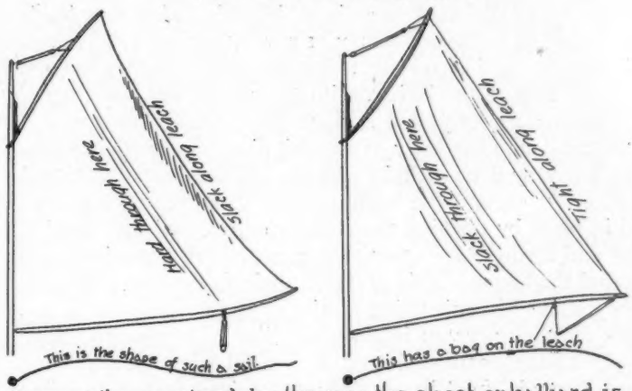
Broad-seaming consists of sewing the two edges of the strips of sail cloth together so that the seam is a narrow one in the center of the sail, but widens gradually at the edges, so that the sail will not be a flat affair, but will have some fullness or bag in the center.

Roaching is cutting the edges of the sails in a curved line, rounding out from the middle of the sail instead of along a straight line from corner to corner. As the middle of the sail bellies out with the wind, this extra cloth allows the sail to swell out to a curved surface, and yet the edges just come to a straight line between corners and do not pull the sail into a nigger-heel.

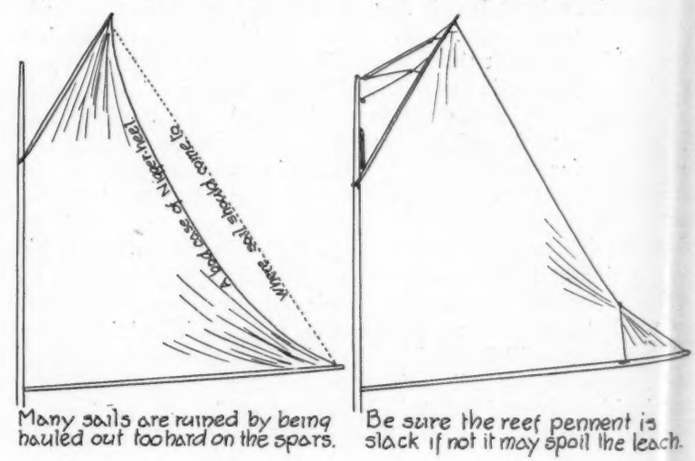
Roping in consists of gathering the sail up loosely as it is sewed to the bolt ropes, so that as the rope stretches the sail cloth will just be pulled out smooth and flat. The draft can also be helped by roping, as well as by broad-seaming and roching.

The sailmaker uses these three methods to make a canvas wing that will have a curved surface not unlike the under side of a bird's wing in the way the curve is proportioned across the sail.

(Continued on page 458.)


Hard throughout here
Slack along leach
This is the shape of such a sail.
Slack throughout here
Taut along leach
This has a bag on the leach

Some sails are ruined by the way the sheet or halliard is rigged - they should not bend the spars out of shape


A boat does of a upper sheet. Where sail should come to.
Many sails are ruined by being hauled out too hard on the spars.
Be sure the reef pennant is slack if not it may spoil the leach.

The Rating Rule and Time Allowance Tables of the American Power Boat Association

By HENRY J. GIELOW

ALTHOUGH there were a few instances where internal-combustion engines were installed in boats during the late 90's, no marked activity occurred in this direction until the year 1900. During this year a number of small boats were equipped with internal-combustion engines, generally known as gasolene motors. During the following year this number was increased about five-fold, and the same percentage of increase occurred during the next year, so that, in the fall of 1902, there were a goodly number of motor boats, ranging from 15 to 50 feet in length on the load waterline, equipped with motors from one or two horsepower in the smaller to thirty or forty horsepower in the larger craft.

During the season of 1902 a number of races were held, but as there was no method of measurement, table of time allowances, or classification for these boats, expectations were not realized, and yachtsmen interested in the sport felt that the time had come to organize and form an association for the purpose of promoting the use of power boats, improving their design and construction, and to formulate rules for racing. A circular letter was, therefore, prepared and sent to a number of yachtsmen, asking them to meet for this purpose. The result was a meeting at the Columbia Y. C. in January, 1903, and, after duly organizing, the first steps were taken towards the formation of the American Power Boat Association. Committees were appointed, and it became the duty of the writer to prepare the rules of measurement, classification, time allowance, racing rules and rules of the road.

The preparation of the racing rules was comparatively simple, as they were patterned after the racing rules in force at the time for sail yachts, modified only to the extent necessary to make them apply to power boats. The rules of the road were prepared so as to comply with the rules and regulations established by the United States Government, with such additions as were thought necessary to meet situations that might arise when racing.

The matter of preparing a measurement rule and time allowance scale was not so simple a problem, as there was nothing in existence that could be used as a guide. A study of the problem, however, soon disclosed the necessity of using a speed formula for the purpose of determining time allowance. As it was hoped and expected that this rule would be used in various sections of the country, and as all measurers of clubs were not necessarily trained naval architects or engineers, it was imperative that the formula should be simple and easily applied. Still, it was desirable that it should be sufficiently comprehensive to make the results of its application reasonably accurate.

Mr. Froude's model experiments, made some thirty years ago for the British Admiralty, cleared up much of the fog that had prevailed up to that period, and it is now well understood that the factors entering into the resistance of a vessel are skin friction and wave and eddy-making on the one hand and horsepower or driving power on the other. Mr. Froude demonstrated that, in similar models, the speed varied as the square root of their respective lengths; and it was, therefore, apparent that the square root of the waterline length should become a factor in the proposed formula. Furthermore, the formula should have a factor which would determine, either directly or indirectly, the amount of wetted surface, the element of frictional resistance, and, as displacement is a factor in wave and eddy-making, the formula should also take note of this in a proper way. It was apparent that no measurer could undertake to measure the number of square feet of wetted surface each boat contained, nor could it be expected that he take off the lines of each boat and calculate the displacement, as this would involve an amount of labor altogether too great for the measurement of a racing boat. The Admiralty formula was suggested; but in view of the fact that displacement was one of the factors, and that an arbitrary constant, ranging from 90 at one end to 286 at the other, could make the speed calculations of any one boat very fully 50 per cent. (depending on whether the constant at either extreme was used), this formula was useless; for, if the measurer had to make a guess at the constant, he might as well guess at the other factors, or even the speed of the boat itself.

The impracticability of applying the Admiralty formula, as well as that of obtaining the wetted surface and total displacement of the boat, made it imperative that some simpler and more practical method should be devised, and yet one that should be scientifically correct. In dealing with parallelepipeds of similar form, immersed in water until the uppermost face is just flush with the surface, it is found, on making the necessary calculation, that the wetted surface is exactly proportionate to the two-thirds power (or the square of the cube root) of the displacement. It is also known that the wetted surface varies as the area of the 'midship section. These results are not quite accurate for parallelepipeds which are not similar in form—that is, whose lengths, breadths and depths are not of a similar proportion—but the inaccuracy is only slight within considerable limits, so that, if boats of ordinary proportions are substituted, it is practically correct to say that the wetted surface varies as the area of 'midship section, and also as the two-thirds power of displacement.

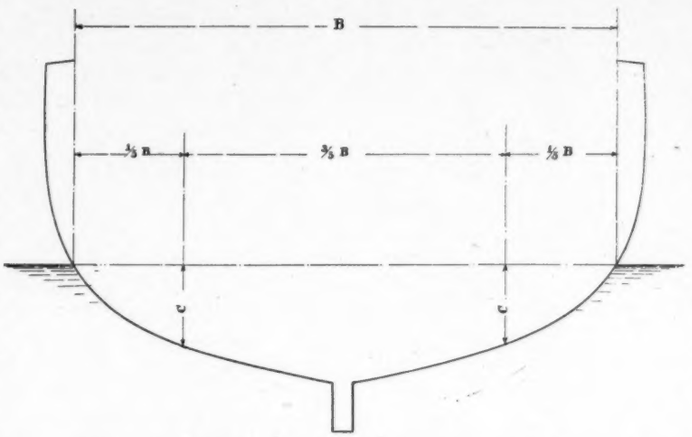
With the wetted surface and displacement both bearing a fixed relation to the 'midship section, only one more factor was required to make the formula complete, viz.: length; and, as the speed in similar models varies as the square root of length, it became quite apparent that the two resistant factors involved in the problem were 'midship section and the square root of length, while the third factor was horsepower or the energy for overcoming the resistance of the other two.

The horsepower being produced by the motor, it was necessary to be able to determine with reasonable accuracy the amount of power that a motor would develop under normal conditions; and, as it is well understood that the horsepower of any motor consists of the piston area, in square inches, multiplied by the number of pistons in use, multiplied by the mean effective pressure in pounds throughout the stroke, multiplied by the length of the stroke in feet, multiplied by the number of revolutions per minute, and the total divided by 33,000, it was apparent that all that was necessary was to get the bore and stroke of the motor, the number of cylinders in operation, the number of revolutions per minute, and the mean effective pressure on the pistons throughout the effective stroke.

At the time the writer, fortunately, had in his possession indicator cards taken from a number of the then existing four-cycle motors, and a careful measurement of the average or typical cards of the different motors gave an average for all of them of just under 67 pounds mean effective pressure per square inch. When placing the actual figures in the formula it was discovered that, by changing the mean effective pressure from just under 67 to 66 pounds, the formula would become a very simple one. As the

four-cycle motor received one explosion every second revolution, the mean effective pressure of one cylinder would be 66 pounds at one revolution and nothing on the next, or, if distributed equally over the two revolutions, it would be 33 pounds. Then, with 33 in the numerator and 33,000 in the denominator, by cancellation we would have 1 in the numerator and 1,000 in the denominator, so that the formula would be: Multiply area of one piston by number of cylinders, by stroke in feet, by number of revolutions per minute, and divide the product by 1,000, equals the actual horsepower of the motor.

With the foregoing facts established, only one more factor remained to be considered in the preparation of the formula; this was the speed or resistance curve. In general terms, it is understood that the speed of a vessel varies directly as the cube root of the horsepower applied; in other words, a curve of cubes. But this is not absolutely correct; for every vessel, whether of the moderate or high-power type, instead of having a resistance curve which is a curve of cubes, or a true line, has a curve with alternately slightly higher and slightly lower points, the low points coming at a speed in knots about equal to the square root of the load waterline length in feet, and multiples thereof, and the high points falling in between.



HYPOTHETICAL MIDSHIP SECTION, ILLUSTRATING THE COMPARATIVE PROPORTIONS GOVERNING MEASUREMENTS FOR DISPLACEMENT.

From this it will be seen that the load waterline length modifies the curve so that the resistance curve for two boats of different length drawn over each other will not quite agree; but if a number of curves are drawn over each other, representing boats, say from 15 to 100 feet in length, advancing by steps of, say, 5 feet, there will be a series of wavy curves through which a mean curve may be drawn that will fairly represent the average, and this curve will be practically a curve of cubes.

Having selected the materials, it was a simple matter to arrange them in a formula, which, expressed in ordinary terms, reads as follows: Rating equals the cube root of the square root of the load waterline, multiplied by the horsepower and divided by the area of the 'midship section. If the factors of two boats were worked up according to this, and for one boat the rating was 2, and for the other 3, the meaning would be that the boat having the higher rating would cover, say, three miles, while the one with the lower rating would cover two miles during the same period of time; in other words, rating means the relative speed of boats.

Before proceeding any further with the working out of the forumla a number of boats were measured and their rating compared with actual performances, the results proving thoroughly satisfactory. It was found, however, that the rating obtained from the different boats had no resemblance to any of the figures of dimensions covering the boats; but as the load waterline length was generally considered as a designating factor in describing the size of a boat, it was thought desirable to make the rating correspond with the approximate load waterline length of the then existing boats, and the constant 15 was added to the formula, so that a boat of approximately 45 feet load waterline length, rating approximately 3, would, by use of the constant 15 in the formula, make the rating substantially the same as the load waterline length. It is, of course, to be understood that in high-power boats the rating exceeded the load waterline length, and in low-powered boats the rating fell below it. The only purpose of the constant at the time was to get an approximate corelation between load waterline length and rating in the average cruising boat of that time.

It was, of course, desirable that the boats should be measured while in the water—their normal state—and that the process of taking the measurements should be as simple as possible. It was simple enough to measure the load waterline length, but the 'midship section had also to be determined, the first question being its position with reference to the load waterline length of a boat. There are many points where science and practice meet on common grounds, and it has been demonstrated, practically as well as scientifically, that there were certain general proportions between beam and draught for power boats that gave satisfactory results; and while many of the practical builders probably could not give a technical explanation, still they knew from experience that the results were the best when a boat was proportioned in a certain way. A study of the position of 'midship sections in steam yachts and motor boats covering a number of designs by the writer, as well as those of other naval architects and successful builders, showed that the fore-and-aft position of the 'midship section varied from 52 to 58 per cent. of the load waterline length, measured from its forward end, or a mean of 55 per cent. Taking into consideration, further, that a variation of 2 per cent. in either direction would make no appreciable difference one way or the other, it was decided to take the 55 per cent. of the load waterline length, measured from the forward end, as the 'midship section of cruising power boats.

The next question was how to measure this section while the boat was in the water and obtain correct results. For this purpose an analysis of some fifty 'midship sections was made, and it was found that, by dividing the beam at the load waterline into five equal parts, measuring the vertical distance from water surface down to the under side of the boat's planking one-fifth of the distance from either end, and multiplying it by the beam at the load waterline length, this would give the actual 'midship section within one or two per cent., whether the 'midship section be a box or almost V-shaped. A single instance may suffice to illustrate the accuracy of this method, the vessel in question being a passenger steamer having a 'midship section of 164.5 square feet by actual measurement, gave, under the formula, a 'midship section of 164.2 square feet. A number of similar tests on other lines and models gave equally satisfactory results.

The table of time allowance was the next thing to be considered, and the first impulse was to calculate it in accordance with the mean curve already described; but, in view of the fact that this curve was based upon smooth-water conditions, it was believed that it would give too much advantage to the larger boats, for whenever any considerable sea should form the smaller boat would be at a decided disadvantage, and, therefore, the time allowance scale was increased somewhat so as to compensate for this disadvantage under which the smaller boat would labor in heavy weather.

In due course the time allowance, racing rules and rules of the road were submitted to the association, and on March 21, 1903, they were adopted.

They say time is a fortune-teller, and everyone interested in the American Power Boat Association and its work was await-

ing results with interest. The writer felt that the mechanical and practical deductions were correct, and naturally was wondering if there were any shortcomings, and, if so, in what form they would appear. He trusted his mathematics and technical experience was not disappointed, but he evidently had not gauged human nature correctly.

The first surprise came in determining the number of revolutions made by the motors. The rules provided that the owner's statement or certificate of the number of revolutions made by a motor should be accepted by the measurer, it being assumed that the owner, or possibly his engineer, would be quite able to count them with reasonable accuracy. But it has been a puzzle to me ever since how men who can count millions of dollars with mathematical accuracy seem to be so woefully deficient in counting revolutions of an engine for a measurer. Owners frequently give the revolutions made by their engines, say at 450, when the actual number of revolutions made during the race was as high as 650 to 700. The data obtained from engineers, in many instances, were equally uncertain. The result can be readily imagined. The boats generally made speeds better than their ratings would indicate, and it was noticeable that the boat belonging to the poorest revolution counter made the best record. Had there been only an isolated instance or two of this poor counting there might have been a remedy, but when there was so much bad counting the remedy had to be sought in another direction.

The other human factor that entered as a disturbing element was the extra allowance from larger to smaller boats provided in the tables to compensate for heavy weather conditions. The smaller boat owner promptly discovered that, in smooth water, he had the advantage, and, when it was rough, he, with equal promptness, declined to start, so that the rule was immediately blamed as being bad and favoring the small boat.

Reuben B. Clark, N. A., published a diagram on which he had plotted the speed made by the various boats in races held under the American Power Boat Association, showing on this diagram the actual curve as laid down by the formula, and also showing a mean curve of the speeds actually made by the different boats. It illustrated very clearly what has already been stated, that, by reason of under-counting the revolutions, the ratings were lower than they actually should have been, and the speed was higher than such ratings. It also showed that the allowance from the larger to the smaller or slower boat was a trifle too great; in fact, was just what was contemplated when the tables were calculated, but which proved to be useless by reason of the smaller boats not starting in heavy weather.

Therefore, at the end of the season, it was found that the rule had been defective in two respects—one was the manner of determining the horsepower, with the number of revolutions as a factor; the other was that smaller boats would start only under smooth-water conditions, because they were then favored by the rule. The remedy appeared comparatively simple. It was decided to fix the piston speed for cruising boats arbitrarily at 666 feet and let those who could make their motors run faster than this reap the benefit, while those who could not attain this speed would have to suffer for the shortcoming. It was a drastic measure, but there appeared no other course open, as there were too many owners and engineers who could not count revolutions.

The matter of putting the large and small boats on an even footing under smooth-water conditions was one of expediency. From the scientific or technical standpoint it would have been necessary to recalculate the whole table of time allowances, and, as this was electroplated, would involve considerable cost in having it set up and reprinted. The practical method was to change the constant in the formula, which would have precisely the same effect; but it was open to criticism that it made the theoretical speed of the boats greater than that actually made, a criticism that had no practical value to the racing yachtsman. The object of increasing the constant was to reduce the time allowance between two boats to an extent that would put them both on an equal footing in smooth water. This is accomplished most effectively, as can be seen from the following example: Taking two boats, one rating 15 and the other 30, using the formula with the constant 15, the 30-footer would allow the 15-footer 8 minutes 20 seconds; but by changing the constant to 18, the rating of these two boats would be 18 and 36, respectively, and the time allowed by the larger to the smaller boat 6 minutes 56 2-3 seconds, or a reduction of 1 minute 23 1-3 seconds per mile.

From the foregoing example it will be seen that the change of the constant from 15 to 18 reduced the time allowance all along the line, so that the larger boats were no longer handicapped by the original good intentions to compensate for the disadvantage under which the smaller boat would be in a heavy sea when racing against a boat of larger dimensions. By the change of a "5" to an "8" this result was accomplished; whereas an alteration of the whole table of time allowances would have involved much labor and expense, although it did open the gates to critics who found more satisfaction in finding fault than in searching for the truth.

During the next year the automobile racing boat became a factor, and some modifications of the rules were necessary to meet the new conditions; for it should be borne in mind that when the original rating formula and rules in connection therewith were prepared it was the intention to enable yachtsmen who had cruising motor boats to get together in different classes and indulge in the friendly sport of racing, "catch as catch can"; but when specially designed high-speed boats, intended simply for racing, were produced, new conditions were brought about and had to be provided for. The horsepower formula for the four-cycle engine became piston area, multiplied by number of pistons receiving direct explosions, divided by a constant, which meant that the formula contemplated an engine having a mean effective pressure of 66 pounds per square inch and a piston speed of not less than 1,000 feet per minute. It was also understood that, in the very fast boats, the position of the 'midship section is further forward, and, in view of the fact that these boats would be out of water from time to time, it was thought best to take the actual 'midship section wherever found, the balance of the formula remaining unchanged.

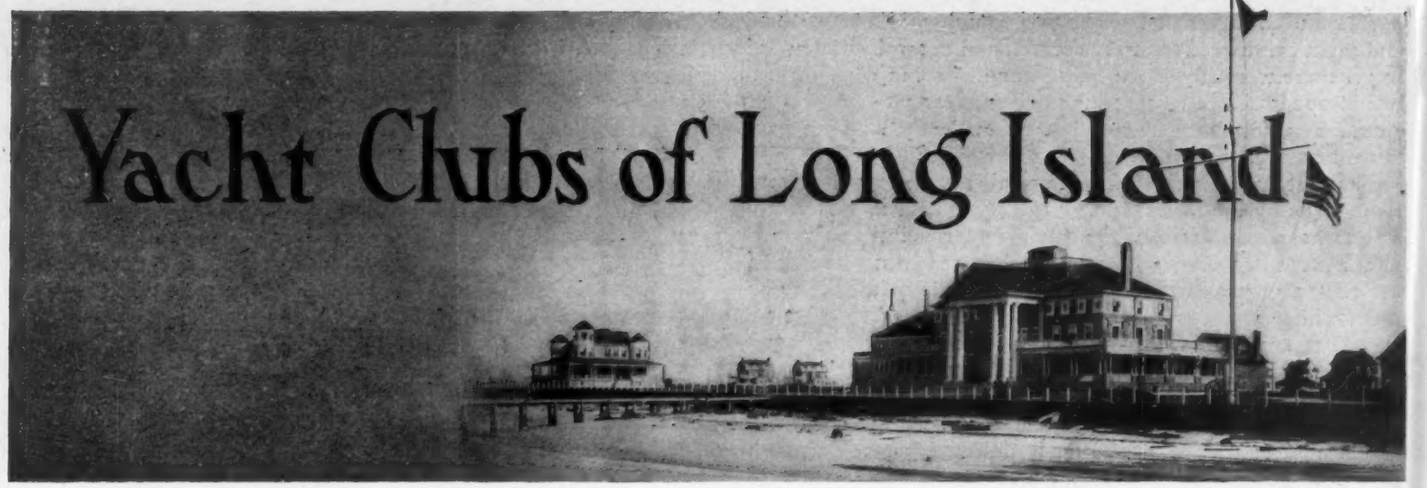
At the end of 1906 many yachtsmen expressed a desire that the automobile boats should be weighed, particularly in the races for the Gold Challenge Cup, and, in order to provide for this contingency, the writer prepared a further paragraph covering the case. It was based upon the fact that the prismatic coefficient of most racing boats is not far from 55 per cent., and this was borne out by actual tests made the following summer, when the boats were weighed, and the weight reduced to an equivalent 'midship section, as provided in the formula; and then the actual measurement of the 'midship section taken. It was found that the two agreed to within one or two per cent., and proved conclusively that the formula had been prepared on fundamentally sound and correct premises.

Since then only a few minor additions have been made to the rules, and these were primarily for the purpose of preventing a technical interpretation of the rules being used to obtain an advantage over well-designed motors by means of some freak device that would result in too low a rating.

In preparing these rules for the American Power Boat Association the writer's aim was to construct them so that they should rest fundamentally on correct scientific principles, and that they should be as simple of application as such principles would permit. There is every reason for believing that, with a careful application of these rules, every boat racing under them will get a fair chance and everything to which it is justly entitled.

(Continued on page 456.)

Yacht Clubs of Long Island



THE IMPRESSIVE HOUSE OF THE ATLANTIC Y. C. AT SEA GATE. BACHELORS' ANNEX AT THE LEFT.

By LOUIS De CASANOVA

PART III—THE ATLANTIC YACHT CLUB

IN the preceding installments of this series on the Yacht Clubs of Long Island space did not permit of more than passing mention of the foremost yacht club of those having their homes on the Island, and an adequate history of the Atlantic Yacht Club requires a special article to do it justice.

Situated at the very entrance of the New World, with the whole battle ground of the turbulent Atlantic stretching in an undulating sheet of shimmering water as far as the eye can see, sheltered from these restless waves by a point that forms a sheltered anchorage, the Atlantic Yacht Club holds not only the key to the yachting situation of Gravesend Bay, but also to all those contests that are fought where the rich and the poor are equal, and where nothing but a steady arm, a keen brain and an ever-watchful eye can overcome the forces of the wind and wave.

No other metropolitan yacht club of importance is continually hearing Father Neptune crooning the lullaby of the deep. No other yacht club that hears this song is so conveniently situated to New York. No other organization has such a patch of restless blue stretching away from a sheltered anchorage that is crying, always crying, for the racing of tiny craft. Such are some of the advantages of the Atlantic Yacht Club; so is it any wonder that the organization, since it left the green hills of Bay Ridge to cast its anchor on the sands of Norton's Point, has flourished like the bay trees of Canaan?

The history of the club is an interesting one, extending over nearly half a century. Few indeed of the hardy Corinthians who organized the club during the winter of 1866 are still actively interested in the sport. J. Rogers Maxwell, that splendid old salt, who has fought more yachting battles than there are rivets in his speedy schooner Queen, alone stands as an exception. Mr. Maxwell is to-day as enthusiastic a mariner as he was when the red-bound burgee of the Atlantic's first was thrown to the morning air.

It was during the winter of 1866 that the club was organized. In addition to J. Rogers Maxwell, the articles of incorporation were signed by William Peet, Charles P. Low, Henry A. Gouge and John J. Cocks, sailormen all, and every one worthy of being one of the founders of such a club. The records show that T. C. Lyman was the first commodore, and that during the initial year there were no other flag officers of the organization. J. Rogers Maxwell was the first treasurer, however, and Christopher T. Lippitt the first secretary of the club. In its opening year there was no regatta committee, but to see that the boats were properly rated Edward Harvey was chosen as the first measurer of the club.

It was indeed a competent list of officials, and from that day to this the Atlantic Yacht Club always has had excellent men to steer it through the dangerous waters of club life. The yachtsmen who have flown the blue commodore's pennant are an excellent example of the type of men who have controlled the destinies of the organization. In addition to T. C. Lyman, the senior flag officers have included Sheppard Homans, William Voorhis, William Peet, J. Rogers Maxwell, George A. Thayer, Latham A. Fish, W. R. Vermilye, H. Herbert Hogins, F. C. Swan, J. L. Marcellus, Jefferson Hogan, N. D. Lawton, David Banks, George J. Gould, Frederick T. Adams, Robert E. Tod, Harrison B. Moore, Daniel G. Reid, Leonard Richards and Charles Sweeny.

As is often the case, the Atlantic Yacht Club is an offspring of an older organization—the Brooklyn Yacht Club. Its original home was a room in a sail loft at Erie Basin. As the club grew, it took a little home on the bluffs at the foot of Fifty-fifth Street, Bay Ridge, and then built itself a cosy little home on the end of a

THE BROAD VERANDAH OF THE ATLANTIC YACHT CLUB.

LIBRARY AND DINING-ROOM.

pier at the foot of the same street. Here the club stayed until it was decided to move to Sea Gate. This was in the year of 1897, and then the present club-house was built for the organization. Shortly afterwards the old home on the end of the pier at Bay Ridge was brought down to Sea Gate and used as a bachelor annex. Both buildings are in commission to-day, and they form one of the handsomest yachting headquarters in the world.

The question of a bachelor annex is a very important one at the Atlantic Yacht Club. The organization is one that at all times welcomes the ladies. There is a clause in the house rules—whether appropriate or not is purely a matter of opinion—which states that ladies will be admitted to the club-house after they have been registered by a member. It furthermore says that wives and families of members may be registered for the season, after which they may personally introduce ladies as visitors, upon registering the names of the guests in a book set aside for that purpose. This means that they may enjoy full house privileges at the Atlantic Yacht Club. Not only this, but the wife of a member, or the wife of a guest of a member, may obtain sleeping rooms in the club-house. For this reason the bachelor annex is an important institution at the Sea Gate club.

Those who are familiar with the sport know that yacht clubs are exceedingly difficult organizations to finance. As a rule, they are in commission for only a few months each year, and, as is the case with the Atlantic Yacht Club, they have often costly properties to maintain. It is a difficult problem; still, it looks as though the Sea Gate organization has found the proper solution. The answer lies in bringing the whole family to Sea Gate and keeping the club-house crowded throughout the summer. As things now stand, the Atlantic Yacht Club is an ideal summer resort. It has everything to recommend it to the man who is fond of the water, whether or not he is a yachtsman, that is compelled each day to go to the city.

The convenience by which Sea Gate is reached is another point that appeals strongly to the yachtsmen who are compelled each day to visit the city. The Atlantic Yacht Club, in connection with the Sea Gate Association and the Crescent Athletic Club, runs a line of small steamers to and from the city each day. These boats are private, and only the members of the three organizations and their guests are allowed to use the craft. After a day's work in the hot city the sail to Sea Gate is most enjoyable, made even more pleasant because the tired worker does not have to fight his way through the crowds that generally spoil suburban traveling.

There is no possible chance on Gravesend Bay of missing the big burgee of the Atlantic Yacht Club. It flies from a pole that stands 150 feet above the ground. The stick has an interesting history, as it is none other than the steel mainmast of Shamrock III, presented to the Atlantic Yacht Club last summer by that well-known yachtsman, Sir Thomas Lipton. Naturally, the Sea Gate Corinthians think a great deal of their mighty flagpole.

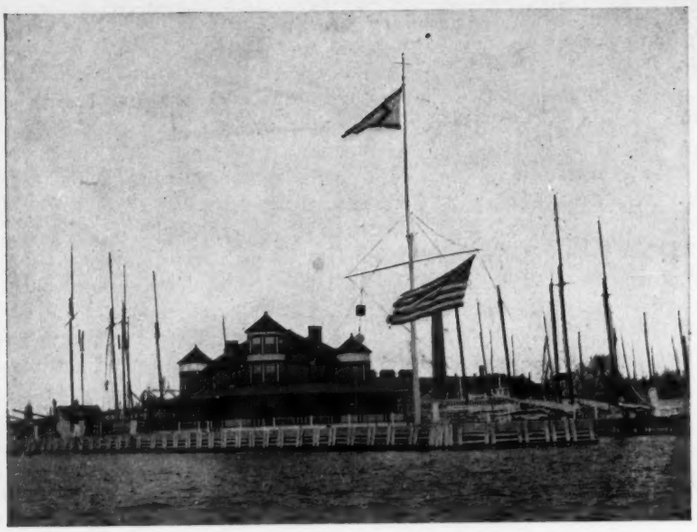
Although the Atlantic organization has every feature of a first-class country club, it must not be imagined that its members are not enthusiastic yachtsmen. Since its earliest existence the club has taken a deep interest in the yacht racing game. Although its racing members are few, the organization is a great believer in contests, and throughout the summer gives more races than does any other club in the Yacht Racing Association of Gravesend Bay. One look at the racing schedule of the Atlantic Yacht Club during the past few years shows that the organization has held some sort of an open yacht race every fortnight throughout the season.

The giving of races for small boats is not a particularly satisfactory move for the yachtsmen of the lower bay. As a rule, it simply means a contest among home craft. As all who are familiar with yachting know, the largest fleet of boats around New York sail upon the waters that wash the north shore of Long Island. The Sound boats are exceedingly coy regarding lower bay racing, and generally refuse to visit Gravesend Bay, even though liberal inducements are offered for a contest. Therefore, to attract outside interest, the Atlantic Yacht Club long ago realized that it was necessary to offer yachtsmen fixtures that were more novel and more attractive than the prosaic ones of the Long Island Sound clubs.

That is the reason why the Atlantic Yacht Club has taken such a deep interest in ocean racing. The very location, that has been a handicap to inducing small racers from other clubs to enter, has been the means of giving to the Sea Gate organization the welfare of ocean racing. Off-shore racing does not only mean the sailing of a yacht on a long cruising voyage, but any contest that will take seamen out on the blue waters of the ever-restless Atlantic. There was a time when the New York Yacht Club sailed its races over a course that took the craft down by the Southwest Spit, then to Sandy Hook, and perhaps further on to Scotland Light Vessel. The course is a famous one in the history of American yachting, and when it was abandoned by the biggest yacht club in the world some seven or eight years ago, the Atlantic Yacht Club continued to give each season one or more races over the historic waters that brought together a fleet of well-known craft.

REAR VIEW OF THE ATLANTIC Y. C.

However, that is not the only deep-sea course popular with the Sea Gate Corinthians. The



THE OLD CLUB HOUSE AT BAY RIDGE.

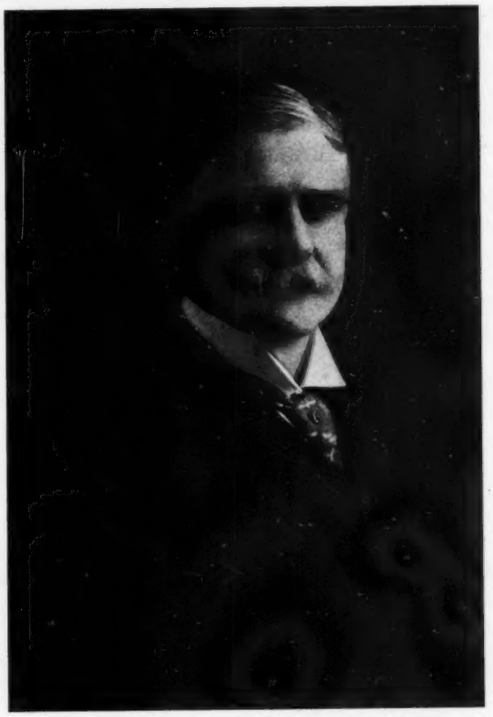
Cape May course, that takes the yachts on an ideal ocean brush, always has been an attractive one for the Atlantics. Under the auspices of the Atlantic Yacht Club many spirited races have been sailed over the waters that lie between Sea Gate, Fire Island Lightship, Northeast End Lightship and Gravesend Bay. Back in 1903 the schooner Kiwassa won a memorable struggle over this course. In those days Commodore Robert E. Tod was the principal promoter of ocean racing in the Atlantic Yacht Club.

Another course that always has been a popular one with the Sea Gate tars takes the craft to Nantucket Shoals Lightship and home again either direct or by the way of the light vessel off Cape May. During the past two years the Bermuda race has been the principal long-distance contest promoted by the Atlantic Yacht Club, and to-day this battle stands supreme among the ocean fixtures of the year. It was also the Sea Gate organization that managed the start of the race around Long Island for the cup given by YACHTING, one of the most successful contests of the season of 1909. Early this winter the Atlantic Yacht Club decided to promote an even more important ocean race than the annual contest to Bermuda. Horace E. Boucher, chairman of the regatta commitee, saw President Taft and succeeded in getting the Chief Executive to stand sponsor for a cup that has been offered for a race across the Atlantic. The race for the President's Cup is to be decided in 1911, and every indication points to the contest being as sensational and as interesting as the race across the Atlantic in 1905 for the German Emperor's Cup. Unlike the usual trans-Atlantic race, the contest for the President's Cup will be to the westward, with the finish line off Scotland or Sandy Hook Light Vessel.

Ocean racing is not the only sport that attracts the attention of the Sea Gate sailors. There was a time when the organization held a cruise each summer, but during the past few years the club has given up its annual jaunt and held in its place a big race week off Sea Gate. Years ago the Atlantics gave a little race week each season, but it was not until John R. Brophy became chairman of the regatta committee in 1907 that the club seriously turned its attention toward such a fixture.

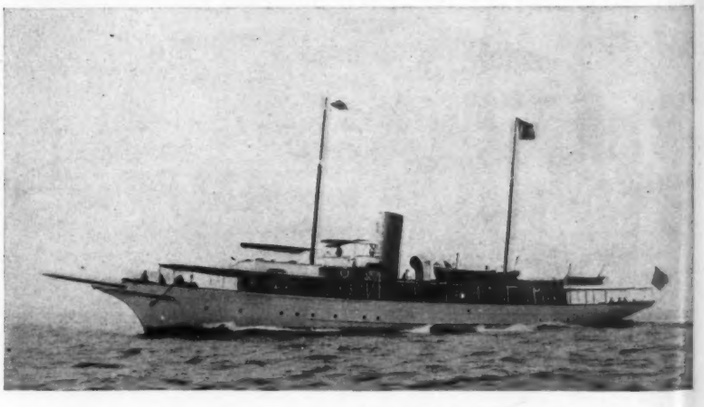
Although principally small boats have taken part in the race week of the club, last season saw Aurora, Winsome and Istalena at Sea Gate, and indications point to craft of equal fame taking part in the race week this season. The big fellows were sent over the America's Cup Course last summer, and all the skippers thoroughly enjoyed the brush on the open waters.

As far as the racing game is concerned, the plans of the Atlantic Yacht Club for the summer are practically the same as those of the season of 1909. Commodore Charles Sweeny, the new senior flag officer of the club, has appointed Horace E. Boucher, Kenneth Lord and Dr. John E. DeMund as members of the regatta committee, and as the first two served last year in a most satisfactory manner, indications point to the present summer being one of the most successful in the history of the club. Dr. DeMund is one of the best-known figures in lower bay yachting. Besides being the president of the Yacht Racing Association of Gravesend Bay for many years, Dr. DeMund was president of the yacht racing commission that gave the races for the King's Cup, the President's Cup, the Emperor's Cup and the Lipton Cup during the Jamestown Exposition.



THE PRESENT COMMODORE, CHARLES SWEENY.

Although not a racing man, Commodore Charles Sweeny is an enthusiastic yachtsman and a firm believer in the racing game. He was the owner of the steamer Emeline, one of the handsomest of the fleet of costly vessels seen in New York waters. He has recently sold this yacht and is about to purchase another steamer, which will also be named Emeline, so that the Atlantic's will have a fine flagship flying the Commodore's pennant this year. At one time he was vice-commodore of the Columbia Yacht Club. The other flag officers of the club are George W. Titcomb, schooner Uncas, vice-commodore, and Hendon Chubb, rear-commodore. Both are prominent in lower bay yacht racing circles, and the latter has been one of the strong supporters of Q class racing; his sloop Spider, which he sailed for a number of years, being one of a fleet that brought the class into prominence.



STEAM YACHT EMELINE, FORMER FLAGSHIP OF COMMODORE SWEENY.

The Shipworm, or Borer

ITS DESTRUCTIVE WORK AND OUR DEFENSE AGAINST IT

By JOHN WIMMER

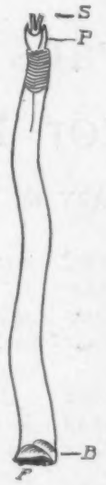
THE shipworm, or *Teredo Navalis* by its scientific name, is a mollusk, most of the species being wholly (though some only partially) protected by a calcareous shell. As a mollusk it belongs to the same shell fish family with the snail, mussel, clam, limpet, cuttle fish, etc. It is an elongated, grayish-white animal, varying in length from a few inches in our waters to from 1 to 3 feet in Southern latitudes. There are about twenty-five distinct species, one of which is the giant teredo found near Sumatra. This species attains a length of 5 to 6 feet and has a diameter of about 3 inches, but it does not attack timber, contenting itself with boring into the hard, sandy parts of the sea bottom. The common shipworm first attracted particular attention in Holland in the early part of the eighteenth century, where, by its ravages on the piers and other submerged timber that supported the dikes and sea walls, seriously threatened the shore works of that country. It was also very destructive in its borings into the keels of ships, piles, docks, etc., and a source of constant annoyance and expense. The rapidity with which it accomplishes its ruinous work may be seen in the case of a small Spanish coasting vessel which went down in the Bay of Biscay off St. Sebastian. This vessel had been on bottom less than four months when its owners determined to raise it. Upon being brought to the surface the hull, in every part from keel to deck, was found to be so completely honeycombed by shipworms that it was abandoned as worthless and beyond any possibility of repair.

One end of the shipworm is somewhat larger than the other, and upon this larger or broader end is fixed the bivalve shell. Upon the narrower end are the pallets, beyond which extend tubes which pass lengthwise through the body. These tubes are known as the incurrent and excurrent syphons, and they can be drawn within or extended beyond the pallets at will. It does not feed on the wood, but discharges the fine borings through the excurrent syphon, and by means of the incurrent syphon absorbs various forms of minute marine life and vegetation upon which it subsists. While a considerable part of its existence is spent in the dark tunnel which it bores, its earlier life is quite the reverse. It paddles about freely in the open water in possession of organs of sight and hearing, but in the later stages of its life these disappear. The larva, after having passed through the veliger stage, must soon attach itself to a piece of submerged wood; if it does not succeed in doing so it dies. Having settled upon a piece of wood it creeps about over its surface for a while, and then settles down to bore the tunnel which eventually becomes its tomb. There is some difference of opinion as to how it actually does its excavating, but it is quite generally believed to do so with the edges of the pallets, taking hold with a sort of fleshy foot and first making a hole about the size of a pinhead, which it gradually enlarges to about a quarter of an inch. As it advances through the wood it lines the tube with a calcareous deposit, though not always for its whole length. In our waters the length of its tunnel very rarely exceeds 8 or 10 inches, with a diameter of about a quarter of an inch. It spawns in the spring and early summer, grows rapidly, and is of full size with its tunnel bored before the end of the year. How long it really lives is not precisely known, but it has been found that in cooler climates they nearly all perish during the winter.

The various stages through which the teredo passes are described by a celebrated French naturalist as follows:

The larva, which at first is almost spherical and entirely covered with vibratile cilia (hair-like processes capable of a vibratory or lashing movement and serving as organs of locomotion), may be compared to a very minute hedgehog, in which every spine acts as a natatory organ. It swims in all directions with great agility, and this first state lasts about a day and a half. Toward the end of this time the external skin bursts, and after being encrusted with calcareous salts becomes a shell, which is at first oval, then triangular, and at last very nearly spherical. While the shell is being formed the vibratile cilia disappear, but the little animal is not on that account condemned to a life of inactivity. In proportion as the vibratile cilia diminish, we observe that another equally ciliated organ becomes developed, which widens and extends in such a manner as to form a large collar or ruff margined with fringes. This new organ of locomotion may be entirely concealed within the shell or it may extend from it, and it acts as a sort of paddle. By means of this apparatus the young larva continues to swim with as much facility as in its earlier age, but it now, moreover, acquires another organ which enables it to advance upon a resisting plane, as, for instance, the side of a glass vessel. This is a sort of fleshy foot very similar to a long and very mobile tongue, which can be extended and contracted at will. The larva possesses, moreover, organs of hearing similar to those of several mollusks, and eyes analogous to those of several annelids.

During this period of existence the mollusk enjoys to a high degree the characteristic faculties of a living being. It moves and is brought in relation with the external world by organs of the special senses. Now, however, comes a last metamorphosis, and this same teredo loses its organs of motion and sensation, becoming a kind of inert mass, in which vegetative life replaces almost entirely the active spontaneity of the animal.



S—Syphons.
P—Palletts.
B—Bivalve Shell.
F—Foot.

As the teredo does not eat the wood it becomes a rather difficult matter to poison the animal. The use of bronzes, verdigris and oxide of copper paints are the best means we have for the preservation of a boat's bottom, and, to be on the safe side, these paints must be frequently renewed, for wherever they are thin or scraped off the worm is very likely to begin its work of destruction, especially so if such thin or scraped parts be on the keel itself. It has been commonly noticed that wherever iron rust from black iron nails or bolts has permeated the wood the teredo has no desire to begin business. In waters where it grows larger and is more active than in ours, advantage has been taken of its aversion to iron rust by driving large-headed black iron nails rather closely together over the lower ends of piles before they are sunk, and this to a very great extent saves the piles. Repeated experiments with a solution of bi-chloride of mercury (corrosive sublimate) have shown that when a piece of wood containing live worms is submerged in a solution containing only two grains in one gallon every worm is completely destroyed in less than one hour. It is quite probable that even a weaker solution will accomplish the same purpose, and the cost not being very great, the practical possibility of immersing an infected vessel of large size in such a solution of salt water contained in a dry dock or other enclosure would appear at least to be worth further consideration. Various copper salts in solution are also effective in this way, but their solutions must be very much stronger, and they do not act as quickly as the mercury salt.

When attacking a boat's bottom or other floating timber the teredo invariably takes hold on the parts most deeply submerged, and it will not come any nearer to the surface, or to the light, than is absolutely necessary to get a suitable hold, unless they are present in very large numbers, so that they crowd one another. They will not go very far up into a centerboard trunk for this reason, and if the trunk be kept coated with good bottom paint for a distance of about 6 or 7 inches up from the keel, the

probabilities are against their settling anywhere in the trunk. They show a marked preference for the deepest and darkest places, and find such places on the edge and bottom of a boat's keel. They bore preferably with the grain of the wood, but do not hesitate to bore against it to get started, and then they follow the grain. It is a curious fact that, no matter how many of these little animals attack the same piece of timber, their burrows never interfere with one another and there is always a partition left between them, which in some instances is very thin, but is always found. They instinctively avoid their neighbors' tunnels when they find themselves approaching one, and it is this same instinct that causes them to avoid passing through a joint or seam between two separate pieces of wood.

This last curious characteristic furnishes the boatman with an excellent means of defense against the shipworm's ruinous work, by fitting to the under side of the keel, for its full length and width, a plank about one and a half inches or so in thickness to receive the little animals' attacks instead of letting the keel take it. The chances are many hundreds to one that they will settle on the plank for business, and after having bored into it for a distance and finding themselves approaching the seam between the plank and the keel, will change the direction of their bore and stay in the grain of the plank or begin new excavations on another part of the plank, provided they have not advanced too far in their last metamorphosis, in which case they drop out to die. So it will be seen that the plank takes the brunt of these attacks and leaves the keel unharmed. When the plank has become well honeycombed it is a very simple matter to piece out those parts with new lumber and thereby extend the insurance on the keel for a very small premium. In a centerboard boat the plank will always be most severely attacked on its lowermost inside edge around the trunk opening, which is precisely where the keel is always found to be badly honeycombed in the absence of a plank.

The preservation of a boat's keel from the ravages of the shipworm by means of such a plank is not a theory. Personal observation and experience with it on a number of small boats have shown it to be a very effective scheme for the purpose, and no boat with an exposed wooden keel, especially a centerboard boat, should be without it.

How "Billy" Evans Did Not Buy a Motor Boat

By MARY M. OWENS

"NEVER judge a boat by a newspaper ad," paraphrased Carver's dampening voice. "It is generally a case of seeing being necessary for believing." Thus spoke Carver to his friend "Billy" Evans on the day after their visit to the Motor Boat Show.

Billy, whose newly-aroused enthusiasm knew no bounds, but whose pocketbook did, thought that possibly he might be able to "pick up a boat second-hand." He was reading eagerly the "For Sale" column of the *Evening* ——.

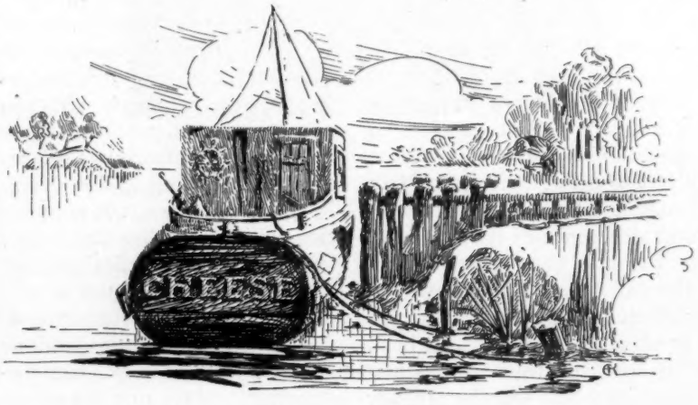
"Listen to this," he cried. "'Lady, having no use for motor boat, wishes to sell; 38 feet long, 9 feet beam. Slightly used. No reasonable offer refused. For particulars, address Mrs. C., Mt. Vernon.' Sounds pretty good, and just what I want. Only slightly used, too. I guess I can get the lady to see my price. I'll write now."

The "lady's" reply was prompt. It stated that the launch was equipped with a six-cylinder —— engine. It quoted the price at five hundred, but added that other terms might be considered.

"She's no business woman," thought Billy. "Probably she has a good thing and doesn't know it. Why, that engine alone, now, would cost six or seven hundred. I'll run up and see the thing."

The following Sunday saw Mr. Evans and his trusty office boy on a train bound for Mt. Vernon. Arriving there, Billy consulted his letter for further directions. "Train to Mt. Vernon, then trolley to Eastchester Creek. Inquire for Sailor Joe," quoted Billy from the letter. "Come, let's run for it!" he cried, as a car shot past them. They made the car, hot but happy, on this, the last stage of their journey. The trip was enlivened by surmises on the part of the office boy as to the identity of "Sailor Joe."

Sailor Joe evidently expected them, for upon their arrival at Eastchester Creek, he immediately singled himself out from a lounging group and hailed the newcomers with, "Be you them New York fellers?" The office boy, to his extreme disgust, could not have distinguished him from the rest of the hangers-on.



"ALL SHE NEEDS IS A LITTLE PAINTING UP."

"I suppose ye want to see the launch," continued Sailor Joe. "She's over thar at the landin'." He led the way out to a small wharf, motioning them to follow him. They did—that is, until they caught sight of the object of their quest. Then they turned and fled. But Sailor Joe kept on to the edge of the wharf. "She's a mighty snug little craft," he was saying when he turned. "All she needs is a little paintin' up, but—" He stopped short. "Them New York fellers" had resolved into a cloud of dust and two pairs of flying heels just boarding the returning trolley.

"Well," said Carver that evening, "what did you think of your boat?" Billy did not tell him, and Carver would never have known had he not casually inquired the name of the launch.

To which Billy replied, disgustedly: "The Cheese."

A 14,000-Mile Race in a Windjammer

By NORMAN KERR

LOADING had just been accomplished aboard the Aphrodite, and as she lay at her dock at Bayonne, N. J., floating at her true waterline, she presented a fine sight. She was a British four-masted, steel bark of some 2,000 tons register, hailing from London, and built on true clipper lines — truly a noble-looking vessel from her t'gallant fo'cas'le head to her high poop with its teak wood rail and chart house, shining brass binnacles and skylight gratings, all in apple-pie order. The Aphrodite carried a cargo of case oil for Hong Kong, and was scheduled to pull out with the first of the ebb at six o'clock the following morning. Her crew consisted of sixteen able-bodied seamen in the fo'cas'le, brought aboard that afternoon by the boarding-house runners, "Chips," the carpenter, who lived in his shop, four apprentices, a bos'n and sailmaker, with quarters in the half deck, which on this, as on most large vessels, was a steel deck house located just abaft the mizzen mast and just forward of the after hatch. Living aft were the cook, the cabin boy, three mates and the captain—twenty-eight all told.

The last night in port before a long voyage is usually an occasion of festivity, at least for apprentices and the younger mates, though the older ones and the captains usually find it a time which can be spent to best advantage aboard the ship. Being an apprentice, however, I did not share this latter view of the subject, and the four of us and the third mate journeyed to New York for a last meal ashore and to take in a show. Afterwards more refreshments followed, and it was quite late, or rather early, and with finances at rather a low ebb, when we headed shipward. Getting aboard, we lost no time turning in.

It seemed only a few minutes—though in reality it was several hours—before we were roused by the old watchman shouting at us, and found it was 5:30, with just time for a cup of hot coffee before turning-to. The tow-boat was soon alongside and all hands were kept busy with the hawser, mooring lines and bracing the yards, the mate, with the third mate and some of the men and apprentices, staying forward, and the second mate, bos'n, and the rest of the men aft. Behind a powerful tow-boat, with a fair tide and wind, we were soon making good time towards open water and the swell of the broad Atlantic. The Aphrodite being equipped with a donkey engine and steam winches, we were not long in getting the muslin on her. After parting with the tow-boat off Sandy Hook, we set all the light sails, including royals, main skysail, flying jib and t'gallant staysails, the wind being just abaft the beam and of moderate strength, and the Old Man wanting to get a good offing as soon as possible and out of the track of steamships.

While loading in Bayonne a large four-masted German bark was berthed next us, also loading case oil for Hong Kong. The two captains became acquainted, and it naturally resulted in a bet being made as to which vessel would reach Hong Kong first. As we both finished loading practically at the same time and started within twenty-four hours of each other, it made a very pretty long-distance race and lent an additional zest to the four months' voyage. This German vessel was the Dusseldorf, and though she got away some twenty-odd hours ahead of us, we did not feel that this was likely to be any great advantage in a race likely to occupy about 120 days; so we gave them a rousing cheer as they towed out, which they returned with interest. We were to see more of her before the voyage ended.

The decks having been cleared, watches were picked, and, with another apprentice, I found myself in the second mate's or starboard watch. This is also the captain's watch, though only figuratively, except when the second mate proves to be incompetent, as sometimes happens, and the captain finds it necessary to take a regular watch. Generally, however, when well clear of land in fair weather, the captain, apart from working out the ship's position, giving instructions to the mates and being the last court of appeal, has little to do with the actual working of the ship if he has a good mate and second mate. In many cases, especially if he is much given to reading or some other hobby, he is not seen by the crew except at sun-time (when the ship's position is taken by sextant by the captain and both first and second mates) for days or

"WE WERE NOT LONG IN GETTING THE MUSLIN ON HER." "AFTER THE TOWBOAT LEFT US." THE DUSSELDORF TOWING OUT.

LOOKING FORWARD FROM THE POOP DECK. THE AUTHOR IN THE FOREGROUND.

even weeks at a stretch. All sail having now been set, the port watch was sent below, it being an old sailing ship axiom that "the captain takes her out and the mate brings her home."

As "out East" is a favorite voyage with shell-backs, we had, as far as could be judged from appearances, quite an able and experienced crew—rather a luxury in this day of steam and sea laborers, but, like most luxuries, it has its disadvantages. For a crew of real seamen is often the cause of serious trouble on long voyages, the typical deep-water sailor being a born growler and trouble-maker, as some of the less experienced of us were to find before sighting Hong Kong.

We had a fair wind for almost a week, which started us well on our way for "The Hope" (Cape of Good Hope), and everything was running smoothly. My watch mate, the other apprentices and I found the bos'n, who hailed from that home of so many good seamen—Nova Scotia—not only a splendid man to work under when on deck, but a most interesting and congenial shipmate when below. When a bos'n is thoroughly competent, it is seldom necessary for the second mate to leave the poop, but he can confine himself to seeing that the vessel is carefully steered, the yards properly trimmed and a good lookout kept.

The advantages to the apprentices are equally great. They not only have opportunities for learning a great deal more from such an officer, but instead of being made to specialize on the most dirty and disagreeable jobs, as is apt to be the case when a bos'n is soft and scared of the men, they are assisted in sidestepping more than a fair share of such work, and the average apprentice does not usually require much assistance in this respect.

In regard to the personnel of the after-guard. The captain, a man only 36 years of age, was an unusually capable seaman and navigator. With strong views regarding discipline, he nevertheless knew when and how to relax with his officers, and consequently had an extraordinary control over them. He was also a great and omnivorous reader, and, except at sun-time, would frequently not be seen on deck for days at a stretch in fine weather. Though only of medium height and weight, he was a man of unusual strength and endurance, and, when a mate, had been noted for the finished way in which he could man-handle the biggest and toughest crew. One of his idiosyncrasies was a fondness for bare feet, and in weather when the crew would be wearing mufflers it was no unusual sight to see the captain and mate pacing the poop, the latter well muffled up, while the former would be in his shirt sleeves, with trousers rolled up and bare feet.

The mate, who was some ten years older than the captain, was short and stout, and a good man to work under. His command of a deep-sea vocabulary was something almost unique, and in rough weather when there was any work the aforesaid vocabulary was kept going at high pressure.

The second mate, who was tall and thin, was not popular. His chief characteristic was an undue aptitude for adverse criticism of the other officers, and though, on account of his being well-read and a good talker, he kept on the good side of the "old man" for some time, it proved in the end to be a case of "every dog has his day."

The third mate had just completed his time as apprentice and was still studying for his second mate's papers. He proved to be a good officer, and was an incentive to us apprentices to follow in his footsteps. Unlike many office holders, he remembered his days of servitude, and frequently our half-deck fare was greatly embellished by his bringing us delicacies from the cabin table.

Mention has already been made of the bos'n. Besides his ability as a seaman and in handling the men, I was much interested in discovering that the works of Shakespeare, Marcus Aurelius, etc., seemed to appeal to him with unusual force. It developed later that "boss" had once taken a minor part in one of the late Richard Mansfield's plays. It is truly said "a sailor is a jack of all trades."

"Sails" was an interesting though, unfortunately, not an unusual type found at sea, being a man of good education and family, but on shore a heavy drinker. He would go to sea for a year or more and save some money, then go ashore with good intentions, but soon both they and the money would be gone, when there would be nothing for it but to ship again. "Sails" was a man in the neighborhood of sixty, an unusually good talker, and distinctly a man of breeding and education. "Chips" was a splendid carpenter, but little else can be said, as he was a man of the most remarkable reticence.

Besides the four apprentices, all that remains of the after-guard were the cook and the cabin boy, who will be dealt with more fully later on.

The run to the line was more or less uneventful, as we had a good share of fair wind, and the men, who proved to be able seamen, did their work well, if not very willingly. Just north of the line, however, we struck the doldrums, and then hard work began with a vengeance. A flat calm, varied at more or less

SHEETING HOME THE MAIN TOPSAIL.

short intervals by slight breezes, springing up almost always, it seemed, from a direction opposite that to which the yards were braced, would force the watch on deck to drop everything, man the braces and pull the heavy yards on the fore, main and mizzen masts round till they were properly braced to the wind, coil all the braces down clear for running, and then go back to cleaning bright work; only to be called in a few moments to man the braces and haul the yards round again to take advantage of another puff of air from a different direction. Being so continuous, it is heavy and trying work, but the only way to get through the doldrums is to literally pull the ship across by the braces, and accordingly every flaw of wind is taken advantage of. In addition to this, it is a region of cloudy weather and heavy tropical rains, which makes dry clothing an unknown luxury. Pulling on saturated ropes from which the water runs down the arms and so on into your sea-boots is not especially conducive to cheerfulness or good temper.

We kept a sharp lookout for the Dusseldorf while passing through the doldrums, but saw no sight of her. It was about this time, when every one's temper was on the ragged edge, that the first trouble with the men began. One day shortly after eight bells (noon), while both watches were on deck bracing the yards, the third mate being in charge and the first and second mates in the chart house with the captain working out the ship's position, one of the men—a large Russian Finn—made some insulting remark regarding the third mate, which the latter overheard. A rough-and-tumble fight ensued, in which the third mate, who was well put up, fully held his own. The Finn, now thoroughly roused, drew his sheath knife, his example being followed by several of the other men, just as the bos'n, who had been forward attending to the head sails, and the captain and two mates from aft, came rushing along the deck. The fight, now more or less general, promised to be serious, owing to the business-like way in which the mates, bos'n and apprentices handled their belaying pins and the men their knives; but the captain, who was not a man for half measures, seized a capstan bar and struck the Finn such a blow that he fell to the deck as if shot. This had the effect of cowing the rest of the men, who were now thoroughly demoralized, though they vowed vengeance.

IN THE "STANDBY" LATITUDES.

After this mix-up the officers carried guns and handy billies (the latter constructed, in most cases, of steel marlin spikes sewn into a tight covering of heavy canvas), the bos'n and larger apprentices also carrying billies, while the captain kept a repeating Winchester loaded and ready for immediate use in the chart house. From the time of the above incident until reaching Hong Kong the men continued surly and troublesome, and though, fortunately, no occasion occurred where it proved necessary to resort to firearms, the billies were in frequent use, more especially on stormy nights, such as we had while running our easting down. On such occasions, possibly through sympathy with the elements, the men were more or less unruly, and it was often necessary, as they came down from aloft after shortening sail, for the mate in charge to fell several of the most troublesome to the deck, on which occasions it was the duty and privilege of the apprentices in the watch to stand by and assist, if necessary, in keeping the after-guard on top. Theories of the uninitiated notwithstanding, it is only necessary to take a voyage in a vessel where the "for'ard gang" have full sway on account of soft officers to find out which way is preferable and best calculated to bring the vessel and her cargo safely to port.

Owing to the trouble with the men, the usual celebration on crossing the line was omitted. However, as we crossed it three more times before the end of the voyage (when sailing north for Hong Kong after rounding the Cape, when crossing from Hong Kong to Adelaide, South Australia, and when homeward bound to England from Australia), we had other opportunities for the initiation of the first voyagers. One interesting incident that occurred the first time we crossed the line was the catching of a large shark, some 12 feet in length. After getting him alongside with the heavy line, chain and hook on which he was caught, a running bowline was slipped over him and pulled taut just above the tail, when he was hoisted aboard. For the next hour members of the S. P. C. A. would have been working overtime, for the finished way in which a deep-water sailor mutilates a shark is really appalling, though, on the whole, not to be wondered at. The vitality and toughness of a shark are something marvelous, and there is a common saying that even under the most extreme conditions of mutilation they will live till sundown. After observing the difficulty with which a knife penetrates the sand-paper-like skin, even when lying on a solid deck, one can appreciate what it must be when attacked by one in the water. Though little of a shark is of value, the backbone, with proper treatment, can be made into a very serviceable and efficient walking stick.

After getting clear of the doldrums we had a long spell of head winds, which forced us far to the west'ard, and on account of which we had for several days a fine view of the Brazilian coast, which was beautifully wooded with palms and other tropical trees, the vegetation appearing to be very luxurious. Every once in a while the white walls and pillars of some large country residence would appear among the trees. This interesting panorama, however, came near costing us dear, as one fine evening about two bells in the first dog-watch, while we were skirting the coast and sailing almost parallel with it, the vessel started to break off (get headed by the wind), and it was soon evident that we would have to tack ship unless we wanted to run ashore.

The watch below was called out, so that the braces would be handled to the best advantage, and all hands were soon at their stations. After keeping her "clean full" for a few moments, the helm was put hard-a-lee, and as the big vessel came slowly up to the wind the mizzen braces were let go and the yards hauled round so that the sails would be aback and help drive the vessel's stern around. On account of the wind being so light and a long ocean swell on our weather bow, the Aphrodite came almost into the wind, then started to fall off. It was a critical moment, as the big vessel lay without steerage way, the sandy beach towards which the long swell was setting dead to leeward and apparently not more than half a mile distant, while the wind, light before, had now almost died away. The only thing now possible was to try and wear (same as jibe) the vessel around. But

the question was, had she room in such a light breeze without taking bottom?

If we went ashore, it meant the almost certain total loss of the vessel and cargo, including all the crew's personal belongings. It would also have practically ruined the captain's career, as, after losing a ship, it is extremely difficult to obtain another. As the vessel payed off and the after yards were slowly squared in, it could be seen that the tension was high for all. The mates gave their orders in little more than whispers, while the face of the captain, as he stood on the poop, was hard-set and white. At times like this one seems to live a long time in a very few minutes. Gradually the ship gathered headway and responded slowly to her helm and the careful trimming of the yards. As she swung around further and further and at last began to head away from the beach, which by this time was so close that one almost held his breath, expecting to feel her ground, a genuine feeling of relief passed through all, and when four bells was struck, in every-day fashion, and I went to my trick at the wheel, it was almost with exhilaration that I felt the big vessel respond to each movement of the wheel as she worked her way out into safe waters.

Ordinarily, the second dog-watch wheel is considered a bad, if not the worst, wheel in the twenty-four hours. This is on account of the old sea custom in fine weather of allowing the watch on deck, except, of course, for the officer in charge, the man on the lookout and the man at the wheel, to spend the two hours in the fo'cas'le or half deck, as the case may be, provided there is no bracing or handling of sail to be done. The second dog-watch is, consequently, the time for yarns, music, card-playing, sparring, etc., and is the most sociable and enjoyable portion of the day.

(To be Continued.)

Purchases and Tackles

By W. E. PARTRIDGE

A CONVENIENT title for the various combinations of ropes and blocks used on shipboard for gaining power is found in the word "purchase." While the pulley is only a modified form of the lever, as treated in our physics, it can be applied more easily and is much more convenient and practical. The theory of the pulley is simple enough, but the average man who has forgotten his school-boy physics usually finds himself at sea when he begins to estimate the pull which he can get from any given combination of blocks and ropes.

Among the beginners there is often great ignorance in regard to the various methods of rigging a purchase for any particular purpose beyond the fact that they can get a greater "pull" with a double block than with a single. Of course, it must be understood that to get an increased pull at one point it is obtained at the expense of an increased travel at another. If, by means of a combination of ropes and blocks, we find that the weight to be moved travels 1 foot while the hauling rope moves 64 feet, the theoretical advantage is as 1 to 64. Actually, we lose something by the friction of the pulleys, the stiffness of the ropes, etc. The quantity lost is variable, amounting, with badly lubricated blocks, to perhaps as much as 25 per cent., though it is usually estimated at about 1-6. A convenient way for the beginner to arrive at the theoretical ratio of a purchase is to measure the distance moved by the "hauling" part of the rope and compare it with the distance which the weight moves.

On shipboard there are a great number of purchases used with many curious combinations. With some of these the gain of power is very great. Other forms are employed merely to change the direction of the pull for the sake of convenience. For example, in the single whip, Figure 1, there is no gain of power, but the direction of the power is downward when the weight is to be moved upward, and a direct upward pull would be inconvenient or perhaps impossible.

With the introduction of steam and the disappearance of sailing ships the ingenious rigging which was used upon the latter has gone out of use and out of the reach of the amateur of the present day. Where skill and muscle had to be used formerly we now take a rope directly to a gipsey and the engine does the hauling without any refinements. A few pounds of coal takes the place of twenty men on the purchase. He who sails for pleasure, however, still finds use for the old methods of doing things.

When we reverse the single whip we begin to change the simple conditions. In the single whip itself the ratio of the weight to the power is as 1 to 1, but when we begin to hoist we find that to lift a weight of 10 pounds we must have a pull of 11 pounds,

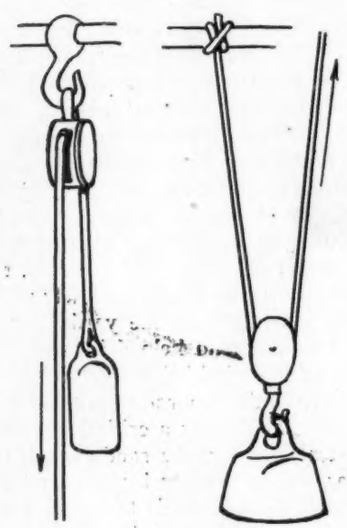


Fig. 1.—Single whip, for changing direction of the pull.

Fig. 2.—Single whip reversed, with movable block.

Fig. 3.—Gun tackle purchase.

Fig. 4.—Gun tackle purchase reversed.

Fig. 5.—Luff tackle.

Fig. 6.—Luff tackle reversed.

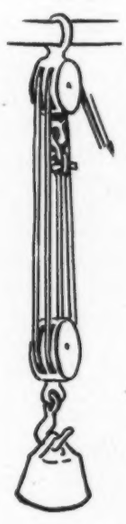


Fig. 7.—Double purchase.

Fig. 8.—Double purchase reversed.

Fig. 9.—Spanish Burton.

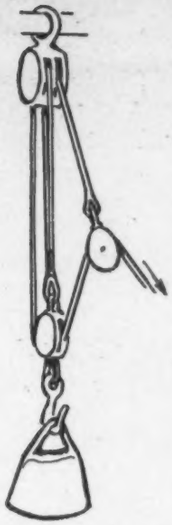


Fig. 10.—Double Spanish Burton.

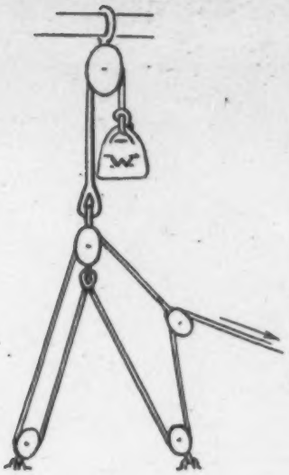


Fig. 11.—Bell's Purchase.

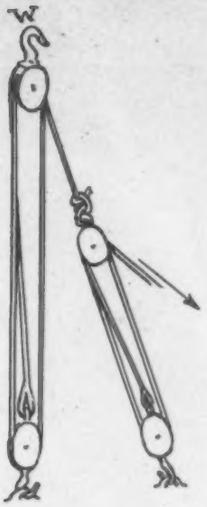


Fig. 12.—Luff upon luff.

Fig. 13.—Blocks with beckets clapped on the fall of a purchase.

one-tenth being lost in friction. By reversing the single whip (Figure 2) and making the pulley movable, we find that the hauling part moves twice as fast as the weight, giving a ratio of 2 to 1, or ½. But in actual work it takes a pull of 11 to lift a load of 20.

In Figure 3 we have the gun tackle purchase. It was so called because it was used to handle the old-fashioned broadside gun carriages. It consists of two single blocks with the rope fast to a becket in the fixed block. Here the purchase is 2 to 1 or ½, but the actual pull is 12 to raise a weight of 20.

When we reverse the gun tackle purchase, Figure 4, we have a theoretical ratio of 1-3, but the actual figures are 11 to 30. Here we may mention the sailor's rule for calculating the power of a purchase. He merely looks at the number of ropes, or "parts," supporting the weight. In this case there are three. The pulling rope here supports the weight and thus gives one additional part over the position shown in Figure 3. There is always a gain when the pulling rope leads from the movable block.

In the luff tackle, Figure 5, one double and one single block are used. The rope is made fast to the single block. Here the purchase is, theoretically, 3; but the power required is as 13 to 30, owing to friction. The increase in the power over the gun tackle purchase is due to the introduction of an extra pulley. When we reverse the luff tackle, as in Figure 6, we have a ratio of ¼, but the power expended in hoisting is still 13 to a weight of 40.

The double purchase consists of two double blocks with the end of the rope made fast to the fixed block. The hauling part moves 4 feet while the weight moves 1, but the actual ratio of power to weight is about 14 to 40. Figure 7 shows how the double purchase is rigged. When it is reversed, as in Figure 8, the ratio is as 1-5 and the actual hoisting power 14 to 50.

We now come to a peculiar form of purchase called the Spanish Burton. How it came by this name is not definitely known. Some authorities say the word burton comes from the same root as burden—to press heavily—but why Spanish, we can only guess. The Spanish were great sailors before the English, and are probably the originators of many things whose names seem foreign to us. The single Spanish Burton, Figure 9, consists of two single blocks and one rope, which is made fast to the movable block, rove through the fixed block, made fast to the weight and then rove through the movable block. Without allowing for friction, it has a power of 1-3, and when hoisting it works out as 12 to 30. It is a favorite arrangement on account of its simplicity.

The double Spanish Burton, Figure 10, requires two single and one double block. Its power is reckoned as 1-5 and a hoisting ratio of 15 to 50.

The next thing in the way of a purchase gives a greater lifting force for a given exertion of power than any before mentioned. It is called Bell's purchase, and is shown in Figure 11. It is made with five single blocks. The theoretical ratio is 1-7. It has an actual lifting ratio of about 12 to 60. There are three fixed blocks, and it should be kept in mind that the angle of the leads from the lower blocks should be small, or power will be wasted. In effect this is something like a double Spanish Burton applied to a single whip.

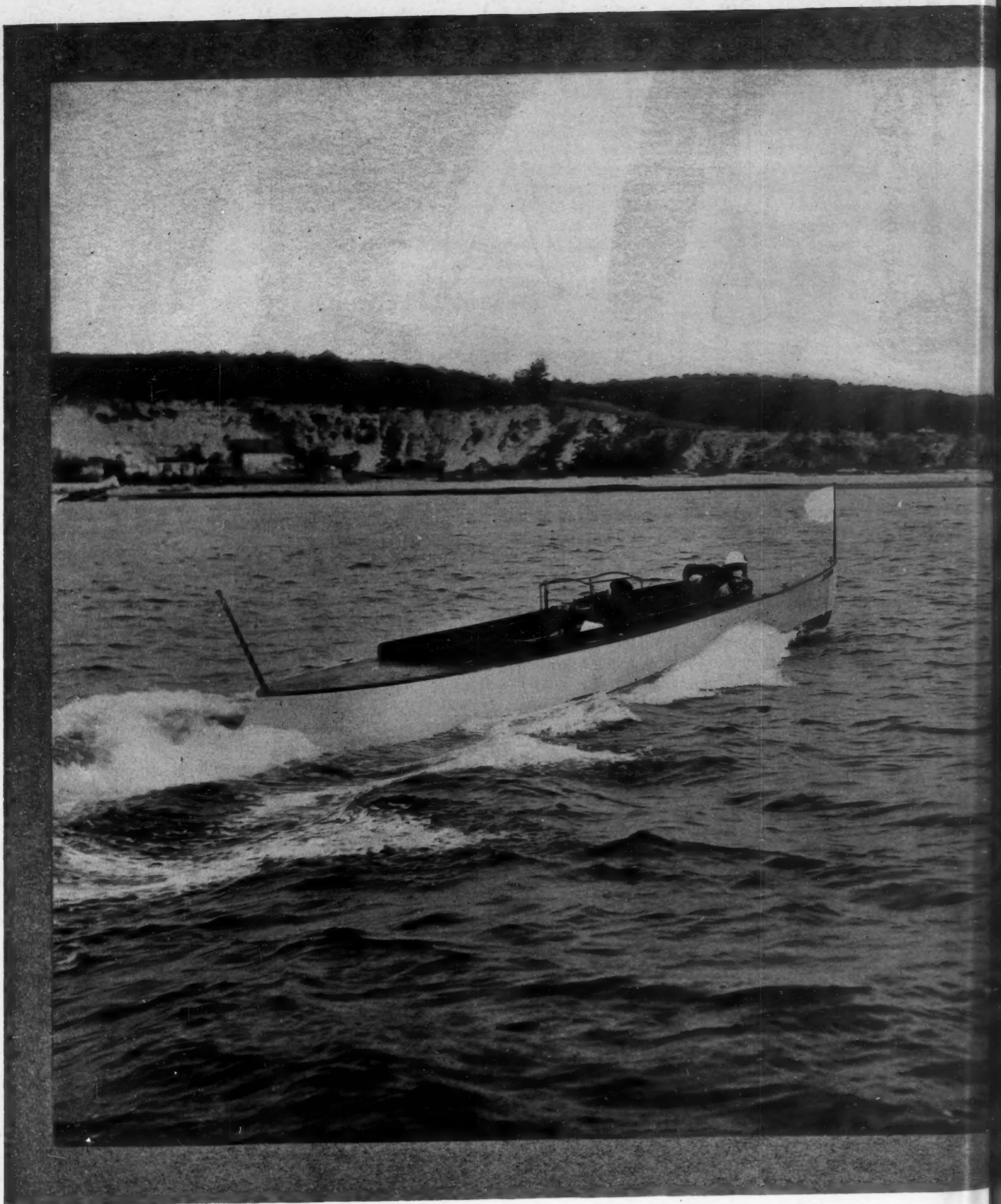
A luff upon luff, Figure 12, is made up of two double blocks and two single. When we apply one purchase upon another—that is, where one is made fast to the hauling part of another—the result is the multiplication of one by the other. The luff tackle itself gives us a theoretical power of 4; apply another, and we have 16. The luff upon luff has a theoretical power of 1-16; actually, 10 pounds pull will lift 100.

Friction of a rope increases with its stiffness and with its speed and diminishes with its size. In hoisting, the greatest strain comes on the hoisting part, while in lowering it falls upon the standing part. In large blocks the standing part is made to go on the side opposite from that on which the fall leads. This gives a better lead and helps to prevent the tendency of the block to slew in the strap.

In selecting the size of rope to use in a block a good rule is to allow 1-10 of an inch in the swallow for each quarter of an inch in circumference of the rope. The "swallow" is the opening in the block through which the rope passes. In setting up a purchase of any kind the fall should, as far as possible, have a clear lead, and the hauling part should be in a line parallel with the rest of the purchase.

On board a boat it is always well to have a couple of spare blocks, two single, or a single and double. They will be useful frequently, especially if they are fitted with straps or have beckets at both ends for rigging up emergency purchases. With the peak, or any other halyard or sheet, a purchase can be rigged in a few moments which will save much hard pulling.

Figure 13 shows in a general way how this can be done. The fall is hitched about the becket of one block and carried through the other so as to form a gun tackle purchase. If the upper block can be used for the movable one a 12 to 30 ratio can be obtained. By clapping this upon a rope or fall by means of a strap much hard work can be saved. These blocks with straps should be in the equipment of every sailing yacht.



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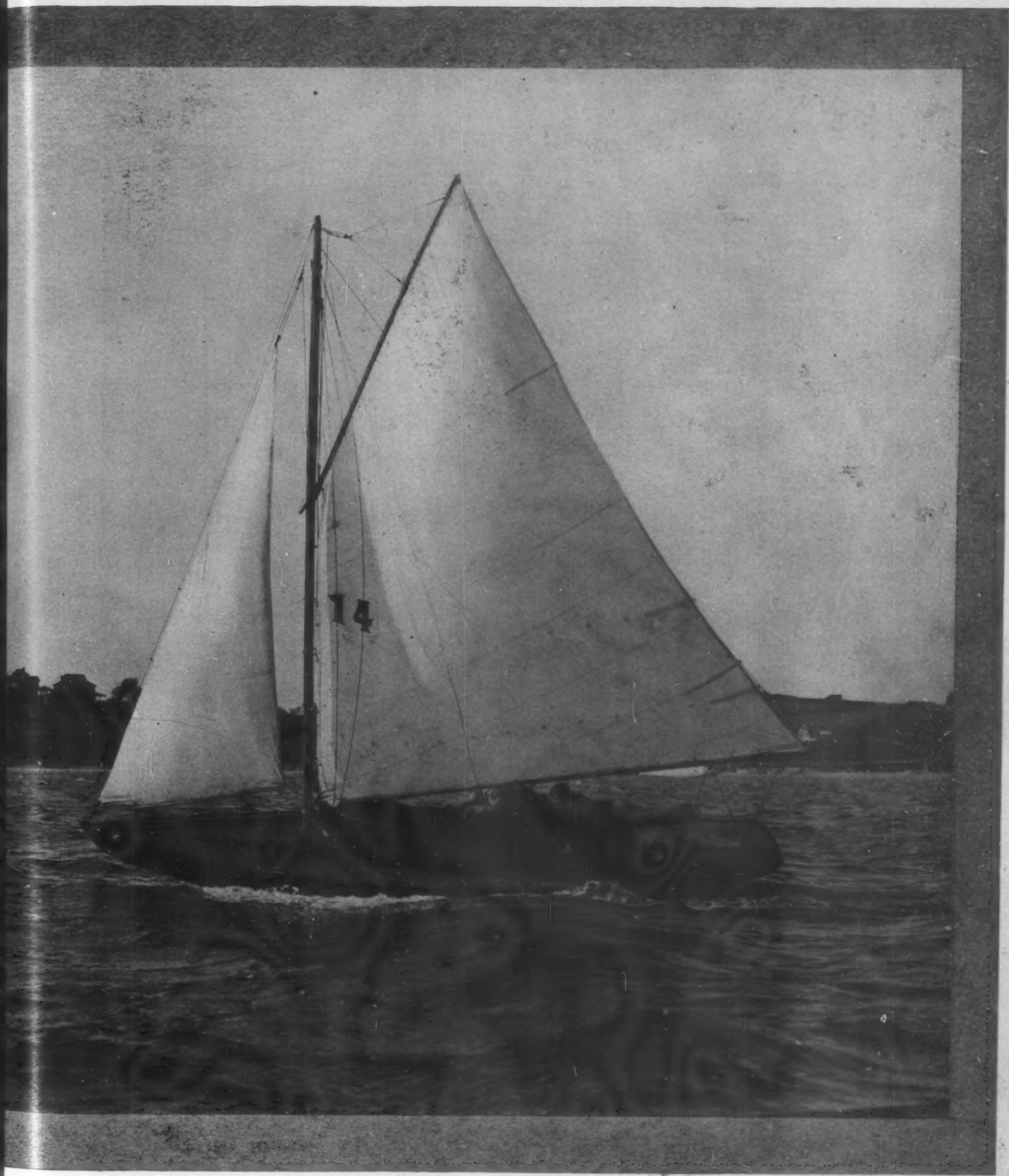
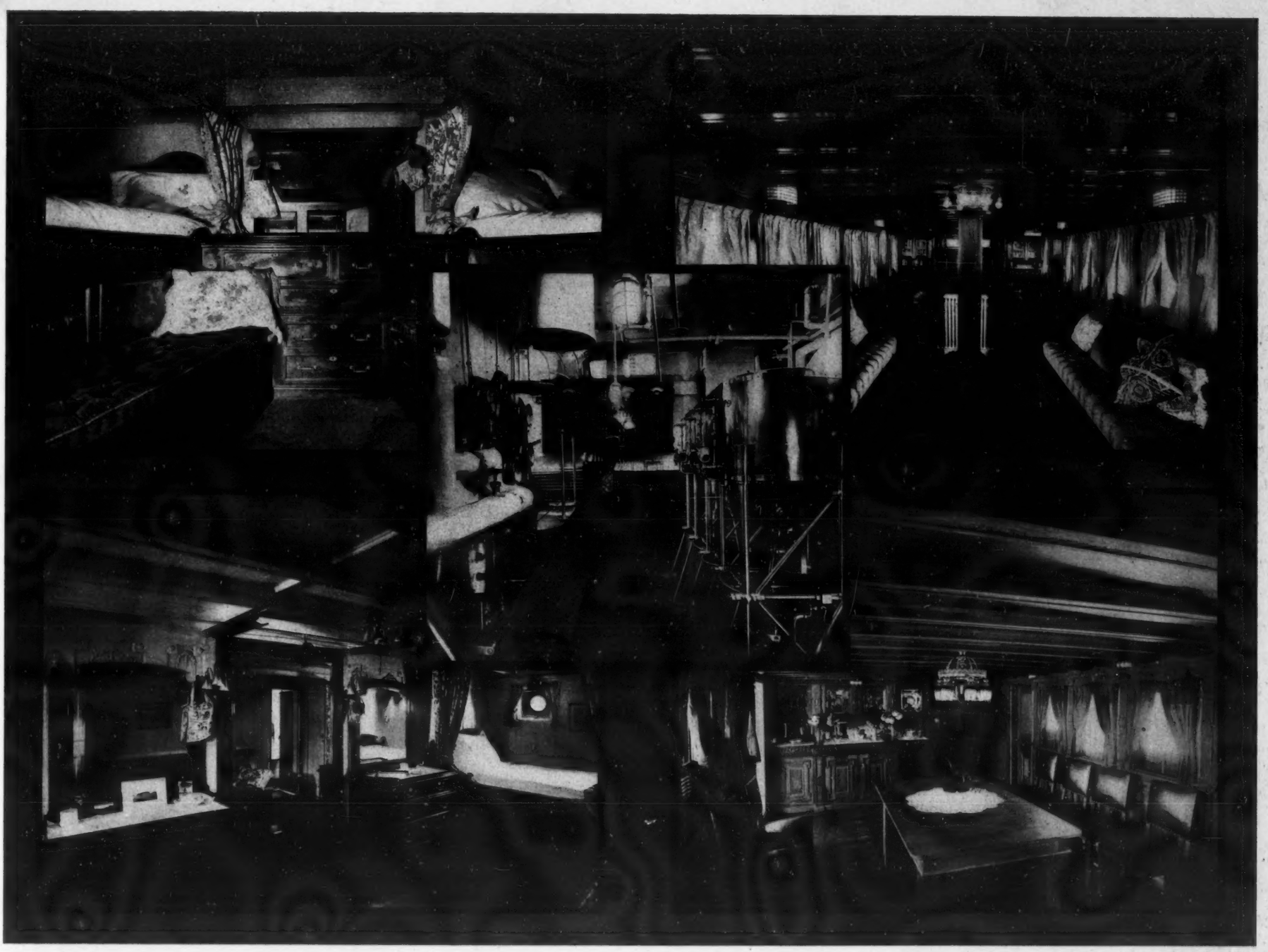
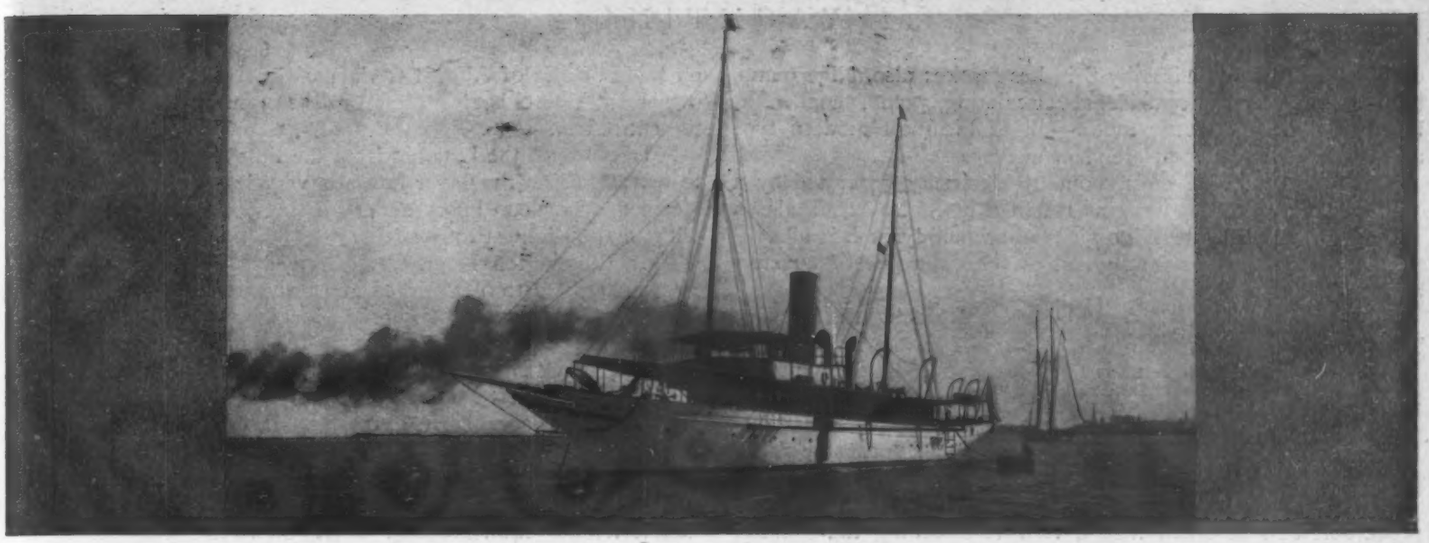


r the R nd I must go."
—*Kipling.*



INTERIOR VIEWS ON BOARD LYDONIA

Guest Stateroom.
Owner's Stateroom.
Engine Room.
Social Hall.
Dining Saloon.



LYDONIA, ONE OF THE FINEST STEAM YACHTS ON THE GREAT LAKES.

The Steam Yacht Lydonia

LYDONIA was designed by William Gardner last season for William A. Lydon, a member of the Chicago Yacht Club. She is noted as being one of the largest and finest steam-powered pleasure craft on the lakes. Her dimensions are as follows: Length over all, 168 feet; length load waterline, 132 feet 6 inches; beam, 21 feet 8 inches; draft, 10 feet; depth, 13 feet 6 inches.

The hull is entirely of high-tensile steel, with four watertight bulkheads dividing the boat into three compartments. The crew's quarters are in the forward compartment, the machinery in the 'midship one, and the after one is utilized for the owner's accommodations exclusively and sub-divided as follows:

The owner's stateroom is situated in the extreme forward part, extending the full width of boat, and is fitted with two stationary berths, two bureaus, one large cheval glass, combination sofa and extension berth, and two wardrobes. Communicating to starboard is a tiled bathroom, with solid porcelain fixtures and nickel-plated fittings.

Directly aft of owner's room is a lobby and passageway, with open stairway leading to upper deck. On either side of passageway are two staterooms, each equipped with stationary berth, seat, bureau, wardrobe and porcelain wash basin. At the after end of passageway there is a double stateroom with two beds, two wardrobes, large bureau and two seats. Adjoining is a bathroom, equipped complete with porcelain fixtures and porcelain tiled sides and floor. This stateroom has large skylight overhead, and all other staterooms are lighted and ventilated with overhead lean-to skylights, in addition to the side ports, thereby assuring perfect light and ventilation at all times.

All the seats, bureaus, berths, etc., are of selected mahogany. The woodwork otherwise is of white pine, handsomely paneled, trimmed with mahogany and painted white, with smooth, dull finish.

LYDONIA'S AMPLE AFTER DECK.

Directly above these quarters is a large deck house, finished entirely in mahogany and utilized as music room and deck saloon. In the after part are large sofas, with upholstered backs, and forward part contains piano, music cabinets and desk. The dining saloon and pantry are situated in forward deck house. The dining saloon is handsomely carved and finished entirely in unfinished teak, with furniture to match.

The galley is below deck, and food is transmitted to pantry by means of dumb waiter.

The crew's quarters is divided into two compartments, with five staterooms and mess room for officers and forecastle for crew. Good accommodation is provided for twenty men. The storerooms are below berth deck.

The main and shade decks are of clear white pine, while the deck houses, skylights, companionways, rails and bulwark are of teak. The shade deck extends to sides of ship over the entire forward part of forward deck house, with captain's bridge at the after end raised 4 feet above it.

The main deck has a double set of awnings, one white and one blue, while the shade deck awning is of white, lined with blue.

The complement of boats consists of one 25-foot motor boat for owner's use, one 18-foot power boat, one 16-foot cutter and one 14-foot dinghy. The propelling power consists of one 4-cylinder, triple-expansion engine, with cylinders 12-18-20 inches and 20 inches by 15 inches stroke, developing about 500 I. H. P.

There are two water-tube boilers, with an aggregate grate area of 59 square feet and heating surface of 2,000 square feet. The boilers are fitted for forced draft, closed ash pit system. These are placed in a separate compartment from engine room.

There are two duplex, vertical feed pumps, with 5½-inch steam cylinder, 3½-inch water cylinders by 5 inches stroke; one feather-weight air pump with 6-inch steam cylin-

ders, 12-inch air cylinders by 8 inches stroke; also, bilge pump, two sanitary pumps, centrifugal circulating pump, condenser, blower driven by electric motor—all of the most modern type and forming a most complete plant in every respect.

The boat is lighted throughout by electricity generated by a 10-kilowatt dynamo and engine installed in engine room, also a full set of storage batteries to give light when dynamo is idle.

The electric fixtures throughout owner's and guests' quarters are of Tiffany design.

A 14-inch diameter, 5,000 candle-power searchlight is fitted on shade deck.

The plumbing throughout is open and exposed. Running hot and cold fresh water is supplied to all staterooms, and cold salt, in addition, to all bathrooms. The entire boat is steam-heated.

A steam windlass for hoisting anchors and launches is placed on forward deck.

The furnishings and hangings are of the very best materials procurable and designed with a view to affording the greatest comfort.

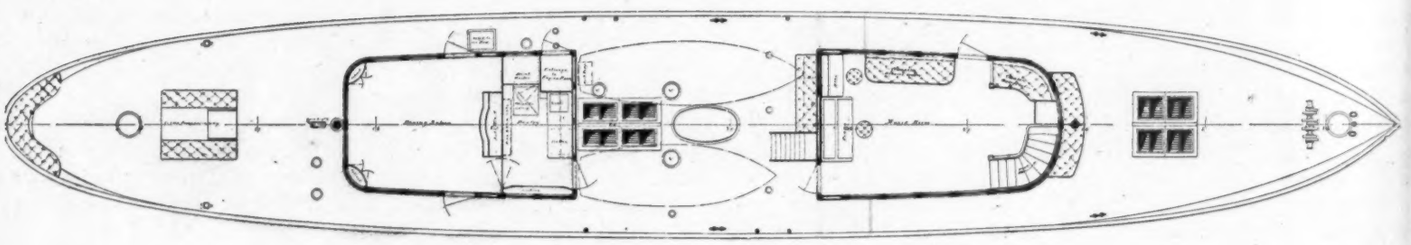
The Lydonia's cruising speed is 12 knots, and she makes 15 knots with forced draft.

As the Lydonia was delivered rather late in the season and the owner was anxious to use the yacht on the Great Lakes during the remainder of the yachting season, she was put in commission here with as little delay as possible, and left for the cruise on the morning of August 6 via the Gulf of St. Lawrence, the owner and guests boarding the boat here and staying aboard for the entire trip.

A brief log of the Lydonia from the time she left the shipyard to her arrival on the Great Lakes is very interesting, she having steamed over 3,000 knots under all sorts of weather conditions without the slightest hitch:

Left Wilmington August 1. Arrived New York August 2. From August 2 to 6 furnished and provisioned the yacht. Left New York August 6. Anchored New London August 6, evening. Left New London August 7. Anchored Newport August 7, night. Left Newport August 8. Anchored Marblehead August 8, night. Left Marblehead August 9. Anchored Bar Harbor August 9, evening. Left Bar Harbor evening of 10th. Anchored Shelburne 11th, morning. Left Shelburne 12th. Anchored Halifax 12th, evening. Left Halifax 13th. Anchored Hawkesbury 13th, evening. Left Hawkesbury 14th. Anchored Charlottetown 14th, evening. Left Charlottetown August 14, night, and anchored in Quebec August 16, night.

The run up the St. Lawrence and the Lakes was interrupted by various delays in the canals and stops in various Lake ports, where the owner has numerous marine interests, arriving finally in Chicago on August 28, without stopping over for repairs of any nature or description. For a new boat this was a most creditable performance.



The 98-Footer Dushka

THE Dushka, a steamer type of cruising motor boat, designed by Messrs. Cox & Stevens for H. W. Savage, of New York City, is of the general type of the Viator, by the same architects, which was illustrated and described in the September issue of YACHTING for 1908. She will be a notable addition to the fleet of large motor craft, and as the date of delivery is not to be later than June 15 of the present year, she will go overboard early enough to allow her owner to use her this season in the vicinity of New York harbor during the summer, and probably for a coastwise cruise as far south as Florida next winter. Her principal dimensions are 98 feet over-all length, 16 feet beam, and 4 feet 6 inches draught.

It will be noted that she is not too large to comfortably navigate the Erie Canal. This point was kept in mind when designing her, and she will be used for a portion of each season in the Thousand Islands of the St. Lawrence River.

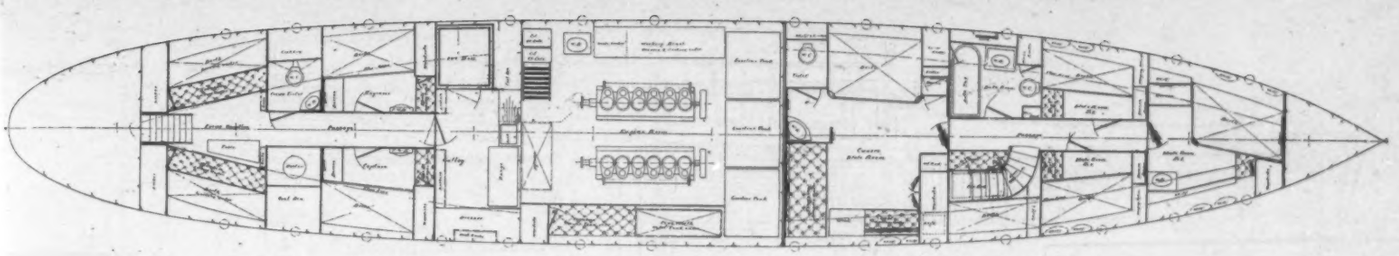
The power consists of two 6-cylinder, air-starting Standard engines, each of 100 nominal horsepower, but which are expected to actually develop something better than 125 horsepower each. With them a speed of at least 15 miles per hour is anticipated.

The engines are amidships, and the engine compartment is separated from the rest of the vessel by heavy steel watertight bulkheads, in which there are no openings. The engine compartment also contains three copper gasolene tanks, of 500 gallons capacity each. These tanks are installed at the forward end of the engine room, with a drip pan underneath, the bottom of the pan being above the waterline, allowing free drainage overboard. An electric lighting plant of sufficient capacity to light the interior of the boat and operate a large searchlight is also installed in the engine room.

This engine room is well ventilated by means of a large skylight and a dummy stack, in which latter are placed the mufflers. When the engines are in operation there is an up-draught through the stacks that will change the air in the engine room every ten minutes.

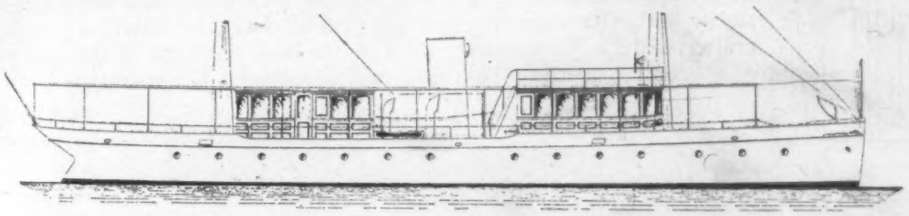
The boat is of the flush deck type, with bulwarks which reduce the apparent height of the two deck houses, and the general appearance of the boat is quite pleasing. As will be noticed from the plans, there are two deck houses, the forward one to be used as a music room and the after as a dining-room.

Two pole masts are carried, on which sails can be set when desired. The masts and the stack are arranged to lower when pass-



ing under canal bridges. The owner's room is just forward of the engine compartment, and separated from it by a sound-reducing double bulkhead. This stateroom extends the full width of the boat, and is 10 feet in length. On the port side is a large double berth, with a wardrobe forward, and on the starboard side a writing desk, bureau and a seat, under the latter of which is storage space. At the after end of the stateroom is a 7-foot sofa, occupying space along one-half of the after bulkhead, while against the other half is a private lavatory.

A door in the forward bulkhead of the owner's stateroom leads into a passageway, from which access is had to the forward deck house by a companionway. The space under the companion stairs is utilized as a storage room, and also contains a berth that may be used in case of emergency. Directly opposite the companionway is a large bathroom, while on each side of the forward end of the passageway is a single stateroom with built-in berth, bureau and settee. Running across the forward portion of the boat is a large double stateroom, with a double built-in berth and bureau, wash basin, wardrobe and settee.



The forward deck house, which is directly over the owner's quarters, has at its forward end, on the starboard side, the head of the stairway leading from the quarters below, while on the port side are upholstered transoms, which can be converted into berths, if desired. In the after end of the house are a piano and writing desk. The after deck house is 9½ feet wide and 16 feet long, the forward portion being utilized as a butler's pantry, and contains an ice box, dish rack, sink, glass cupboard and dumb waiter, the latter connecting with the galley, which is below decks, just aft of the engine room. This pantry communicates with the dining saloon by means of swinging doors.

The only fixed furniture in the dining saloon will be a handsome Colonial sideboard, the round extension table and chairs being movable to suit the number of guests that may surround the festive board.

Below decks, aft, is the galley, already mentioned, and from the galley a passageway, with engineer's and captain's cabin on each side, leads aft into the crew's quarters, in which there is accommodation for four men, and which also serves as a mess-room. Between the captain's room and crew's quarters there is space for a small hot-water heater, with sufficient capacity to heat the radiators in the living quarters throughout the vessel. Opposite this is the crew's lavatory. These after cabins just mentioned are entered by means of a companionway leading to the after deck.

A very complete outfit of boats will be carried, including a 16-foot motor boat and a 14-foot dinghy. The placing of the heavy weights, such as engines, fuel tanks and auxiliary outfit, in the center of the boat, and practically over the center of buoyancy, ensures Duskha being a good sea boat; and, moreover, she will not change trim materially as the gasolene is consumed on a long run.

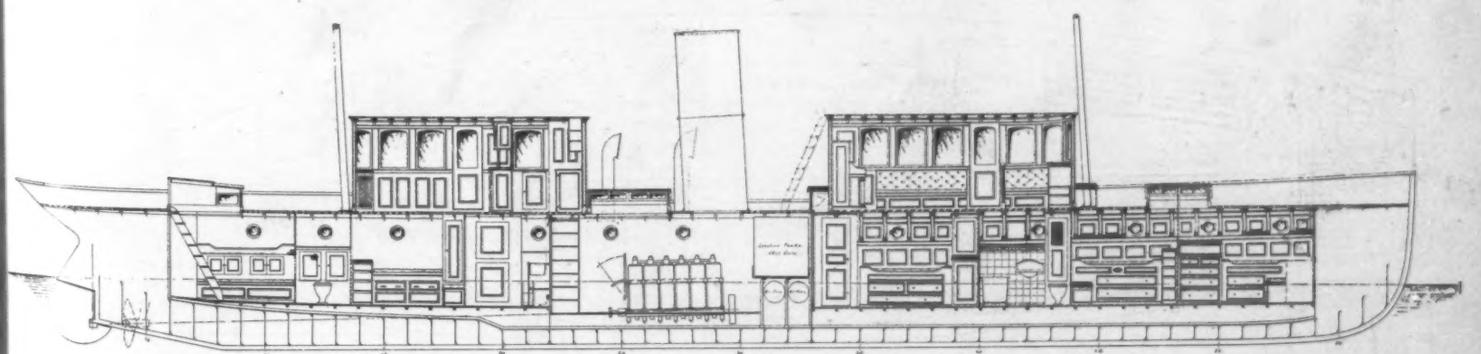
With a high freeboard, steam-yacht stern, two deck houses and large bridge deck, she will be a very handsome and impressive craft, and she offers an extremely good combination of the requisite good points necessary for both a deep-water and inland cruiser.

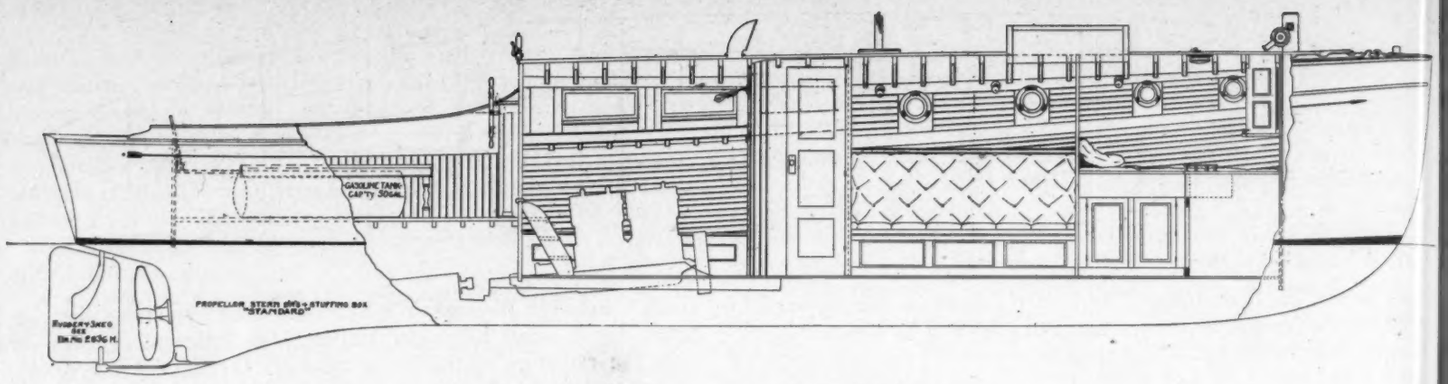
This new boat is another illustration of the manner in which the gasolene motor boat has, to lapse into the vernacular, "butted into" the field which the steam yacht has but latterly considered quite its own.

Dushka presents practically all of the distinctive features of the moderate-sized steam yacht, both in model and external appearance. The two deckhouses, the bridge deck, the high freeboard, which allows of the flush deck construction, the large stack—all carry out the impression that one is looking at a steam-propelled craft.

Below decks the liberal amount of cabin space and the arrangement would tend to cause the observer to believe that he was aboard a steam yacht of more than Dushka's over-all length.

When the engine room is reached, however, the illusion is explained and one understands wherein the difference lies. And this difference is greatly in favor of the motor boat, for it is by means of the economy of space allowed by the internal-combustion engine as compared with steam power, and the elimination of boiler room, coal bunkers and quarters for a large crew that it has been possible to give the amount of living accommodation for owner and guests that are shown by the plans.

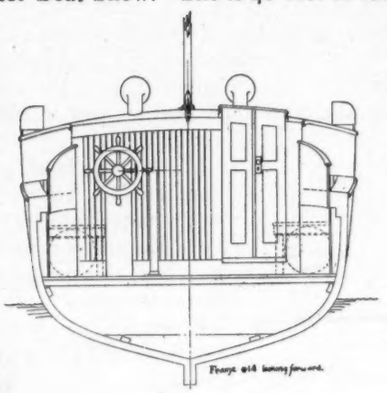


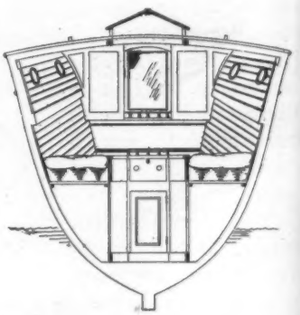


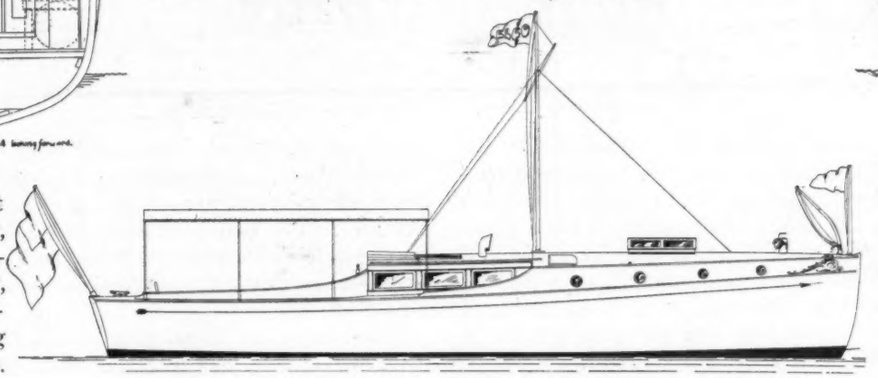
A 40-Foot Cruiser

THE plans herewith show the new stock cruiser designed and built by the Elco Company, of Bayonne, N. J., for Mr. Isaac Guggenheim, of New York City, for use on Long Island Sound.

This boat was exhibited by the builders at the New York Motor Boat Show. She is 40 feet in length over all, 9 feet 6 inches beam, and draws 3 feet 9 inches of water. The proportion of beam to over-all length is sufficiently liberal to make the craft a very steady and seaworthy cruiser, and also permits of good accommodations below. The power plant consists of a 4-cylinder, 5 x 6-inch, 16-20-horsepower Standard motor, equipped with dual ignition system, operating make-and-break igniters.





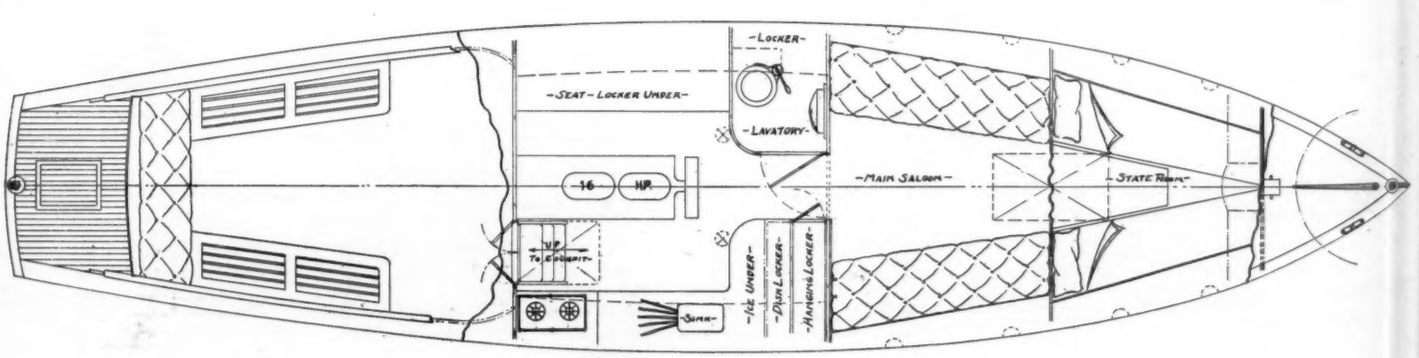


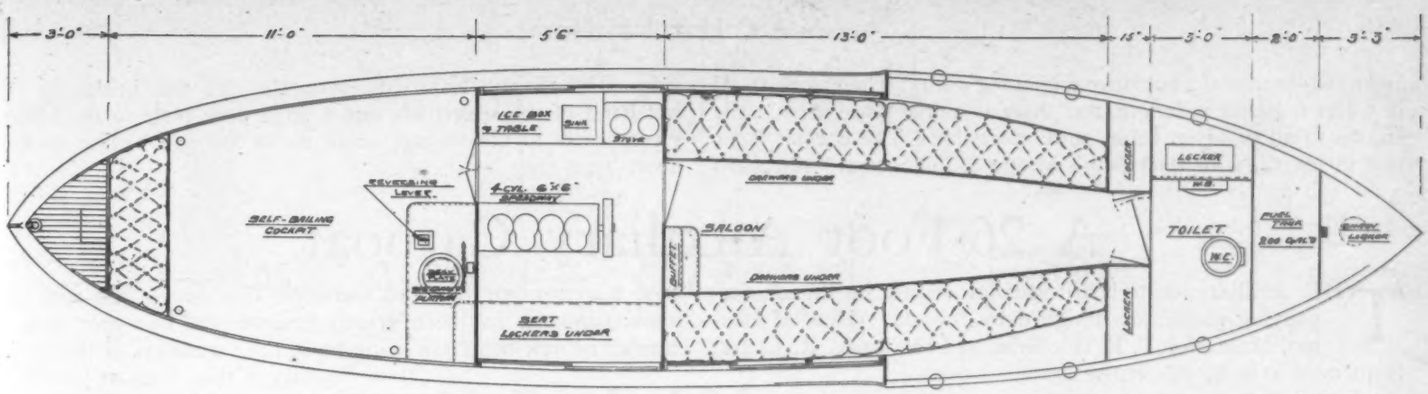
Aft of the chain locker comes a double stateroom, in which the berths are raised sufficiently to allow of good storage space underneath. Aft of this comes the main saloon, 6 feet 8 inches in length, with sleeping accommodations for two or more on extension transoms, underneath which are lockers. Between the main saloon and the engine room is a passageway, on the port side of which is the lavatory, and on the starboard side the dish lockers and a refrigerator.

The engine room is 9 feet 4 inches in length, and on the port side is an extension seat with lockers underneath, which can be made up into a berth for the engineer.

On the starboard side are sink and stove and companionway to the cockpit. The cockpit has an athwartship seat in the stern and two side seats, underneath the latter being two 50-gallon tanks, giving the boat a cruising radius of 450 miles on one filling. This method of installing these tanks under the cockpit seats makes them very accessible, and allows any leakage to overflow through the deck scuppers of the self-bailing cockpit. The rounded transom stern and the consequent carrying of the liberal breadth of waterline well toward the stern permits of the carrying of the weight of the fuel quite far aft. Moreover, it allows of a cockpit of very generous dimensions, an important feature, when it is considered that this is usually the most popular portion of a cruiser in all but the most unpleasant weather.

Ventilation of the engine compartment is provided for by two cowls on the cabin roof, while the stateroom and main cabin have a large skylight over them. In addition, the large and well protected side windows of the engine-room galley ensure that part of the cabin being kept free from engine and cooking odors.

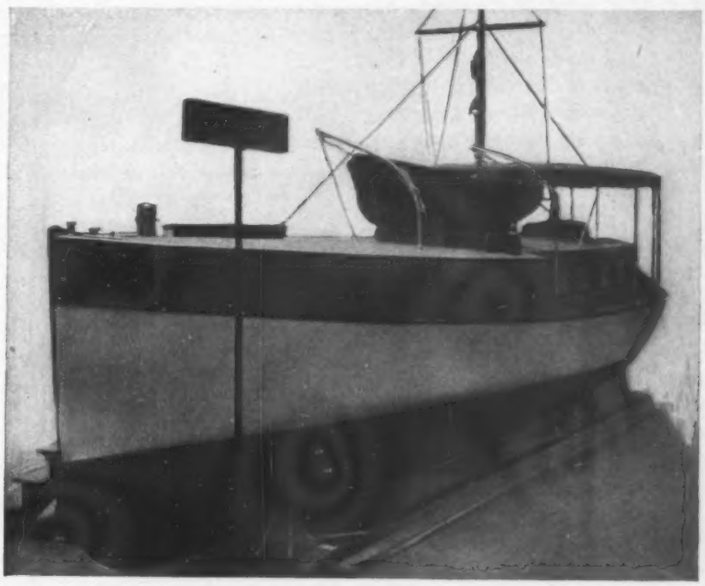




The 42-Footer Vagabond

A BOAT that attracted much attention at the New York Motor Boat Show in February last was the Vagabond, designed and built by the Gas Engine & Power Company and Charles L. Seabury & Co., Consolidated, of Morris Heights, New York City. This craft was of the raised deck and extension cabin type, with plumb bow and compromise stern. The dimensions are as follows: 42 feet over all, 9 feet 6 inches beam, and 3 feet draught.

Two noticeable features of the craft, as viewed from the exterior, were the good freeboard and the pronounced flare of the topsides forward, both of which gave assurance that it would be a wonderfully seaworthy boat. The lines are clean, and the boat has a particularly good stern.

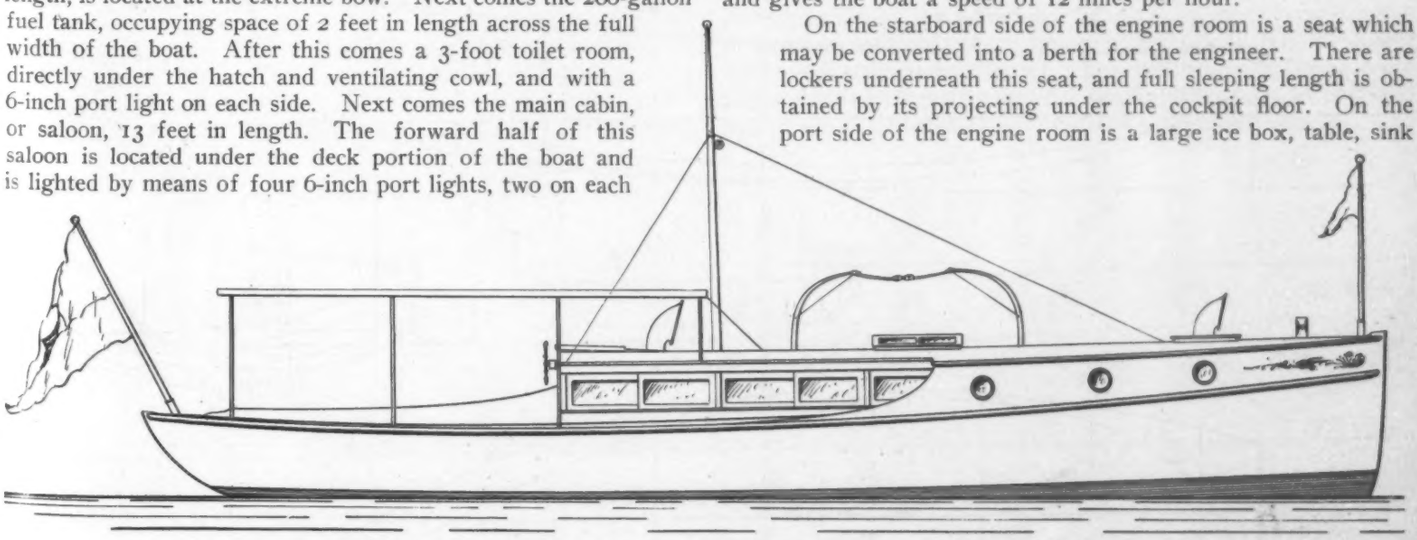


An examination of the accommodation plan shows an arrangement aiming at extreme comfort for a moderate-sized passenger list, rather than an attempt to cut up the boat's interior into many small compartments. Starting forward, the chain locker, 3 feet 3 inches in length, is located at the extreme bow. Next comes the 200-gallon fuel tank, occupying space of 2 feet in length across the full width of the boat. After this comes a 3-foot toilet room, directly under the hatch and ventilating cowl, and with a 6-inch port light on each side. Next comes the main cabin, or saloon, 13 feet in length. The forward half of this saloon is located under the deck portion of the boat and is lighted by means of four 6-inch port lights, two on each side. The after half is under the extension cabin trunk, and is lighted by three plate-glass windows. The headroom is 5 feet 10 inches, and by means of a curtain drawn across the boat the saloon may be divided into two staterooms, each having sleeping accommodations for two people. There is a skylight over the center of the saloon and a buffet on the starboard side of the after cabin bulkhead.

There are two large, full-length lockers, one on each side of the forward end of the saloon. One serves for the storage of the Commercial Acetylene Company's safety storage tank, from which gas to light the entire boat is supplied. The other locker is for clothes, and this, with the seats, which have drawers underneath, provides liberal space for wearing apparel and small stores.

A door in the port side of the after bulkhead leads into the engine-room galley, in which is installed a 4-cylinder, 6 x 6 Speedway engine, which develops 32-40 horsepower at 550 to 600 revolutions per minute and gives the boat a speed of 12 miles per hour.

On the starboard side of the engine room is a seat which may be converted into a berth for the engineer. There are lockers underneath this seat, and full sleeping length is obtained by its projecting under the cockpit floor. On the port side of the engine room is a large ice box, table, sink



and a two-burner alcohol stove with a big oven. The engine room is 5 feet 6 inches in length, and there is ample space around the engine to allow of its being quite accessible. The cockpit is 11 feet in length, with steersman's bridge at the forward starboard side. The reverse lever comes up through this bridge at the left hand of the steersman, and a large deck plate in the bridge gives access to the storage space under the self-bailing cockpit floor.

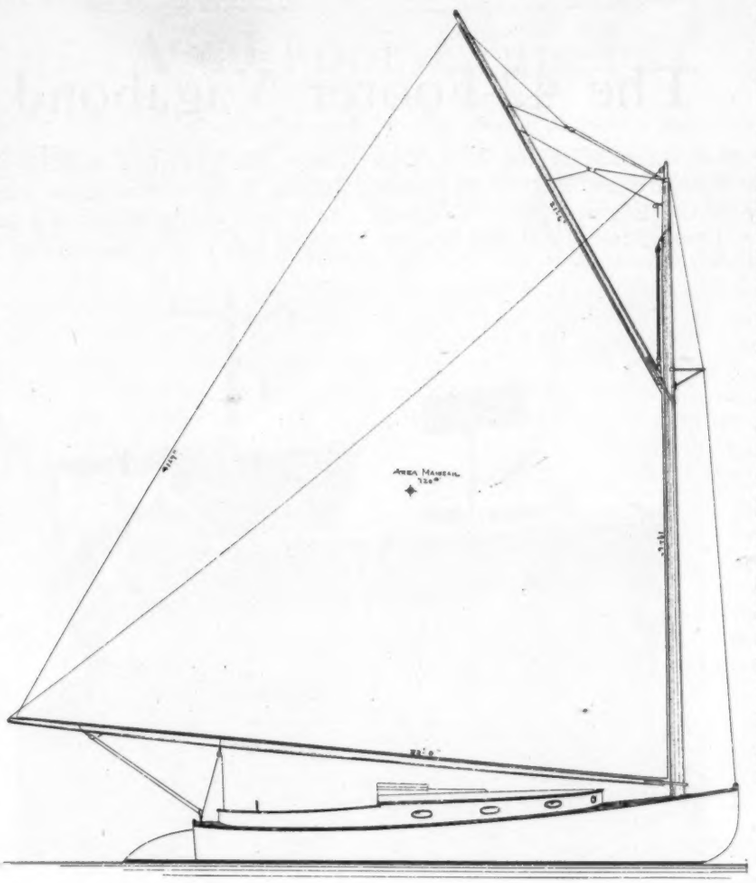
A 26-Foot Auxiliary Catboat

THE auxiliary centerboard catboat shown in the accompanying plans was designed by John G. Alden, of Boston, Mass., for T. R. Goodwin, of Providence, R. I., and is intended to be an able cruising boat with a good turn of speed, especially in heavy weather. Only just enough bow overhang was given to straighten out the forward lines and prevent the tendency of rooting, the common fault of many catboats, and care was taken to produce a model that would not pound in a seaway.

The rig has been kept moderate, and it is probable that considerable more sail could be carried if desired; but as it was planned to install a 7-horsepower engine, it was not thought necessary.

The principal dimensions are: Length over all, 28 feet; length waterline, 26 feet; beam, 12 feet; draught, 2 feet with board up, 6½ feet with board down; sail area, 720 square feet.

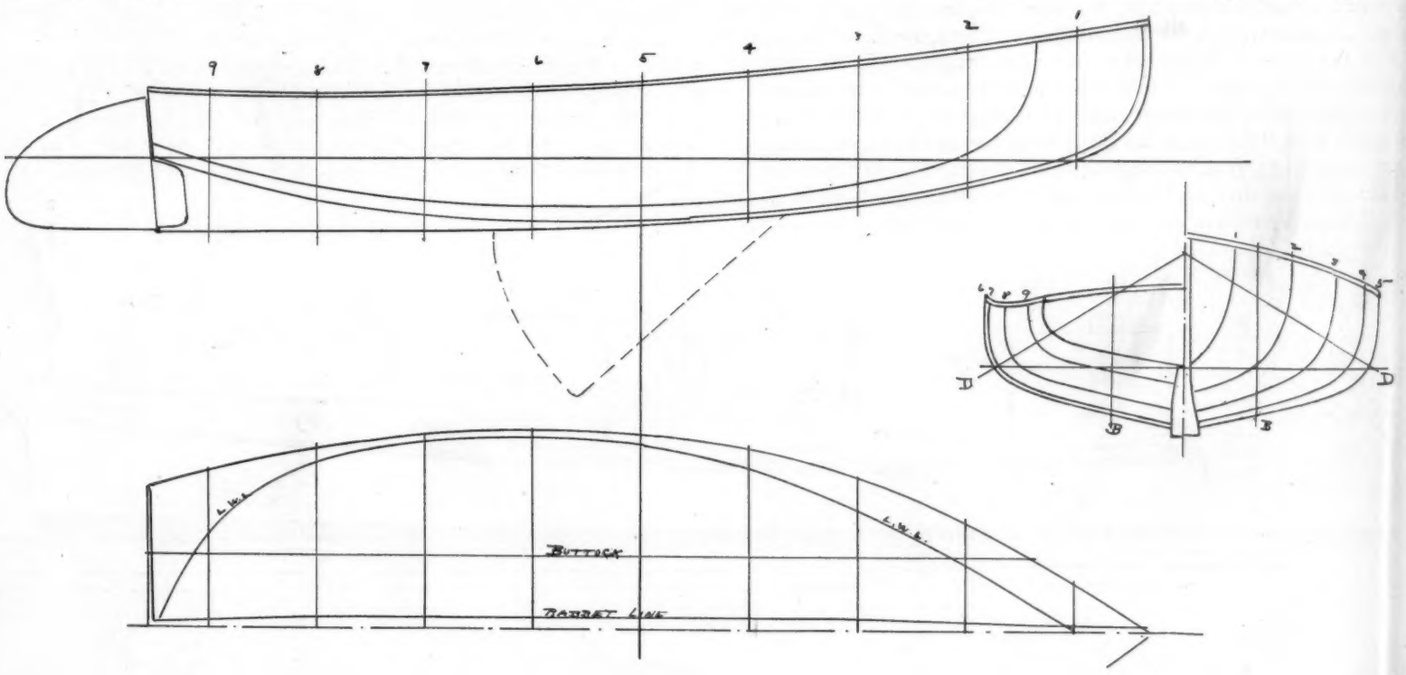
A boat of this type probably represents the largest amount of speed, comfort and accommodations procurable for a given cost, and while in past years the catboat has suffered by the popularity of the knockabout type, in Boston Bay, Narragansett Bay and Barnegat Bay during the past two seasons interest has been greatly revived, and this year quite a number of new boats are being built, the formation of the Inter-Bay Cabin Catboat Association having done much to bring this wholesome type of craft back to popular favor.

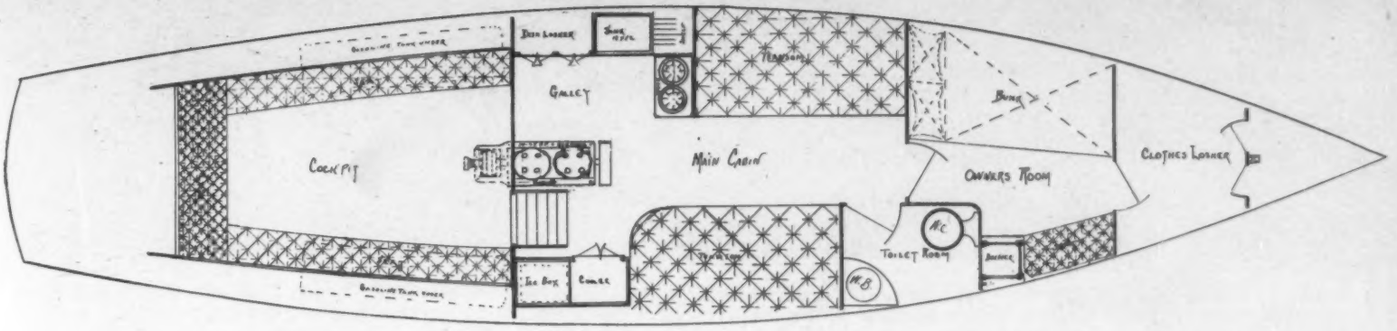


For racing or cruising such a boat as shown can be built for about $1,000 complete, and provides ample cockpit space and sleeping quarters for four. The design has been carefully worked out by Mr. Alden, as is shown by the clean lines and attractive appearance.

While the headroom is, of course, somewhat limited, the cabin gives unusual accommodation for a boat of this size, by reason of the generous beam. She should prove a very comfortable boat for cruising purposes, and should be fast, judging from her easy lines. The sail area is only 720 square feet, but a larger rig could be carried if it was desired to use a boat of this type for racing in some of the Inter-Bay catboat series.

She is a good, wholesome craft, being "all boat," as the saying is, and we should like to see the type encouraged.





A 40-Foot Lake Cruiser

WE show herewith the plans of a new power cruiser now building for W. H. Rogers, of Rochester, N. Y., for use on Lake Ontario, and designed with the idea of producing a craft suitable for day cruising and use around her home port. This boat is 40 feet long over all, 9 feet beam, and 30 inches draft. She was designed by Capt. E. W. Delano, of Rochester, who built a smaller boat along these lines a number of years ago that proved very satisfactory in design and model, especially as to the full transom stern, which seemed to be particularly well adapted to the waters of Lake Ontario.

In designing the new boat the lines were carried out full, and while there will be considerable displacement for a craft of this size, the loss in speed is more than compensated for by the great amount of room and comfort that is obtained in this way.

The boat will be equipped with a 30-45-horsepower Sterling engine, and, from the record of these engines, the owner expects a speed of about 10 miles an hour. If this is obtained, it will be just right for a boat of this type, and will be plenty fast enough to allow of running from port to port in a reasonable length of time, as about the longest runs around the lake are from 50 to 60 miles and the harbors average about 30 miles apart. Thus three to six hours will get one to his destination, unless on an extended cruise up or down the lake.

The hull is constructed throughout of steam-bent oak frames, floors, deck carlins, etc., with good, heavy floors and planks of 1-inch cypress, the planking being put on narrow. The cypress planking is most satisfactory when put on in narrow widths, and makes very good material if care is taken to get the joints tight. All of the deck, cabin house, cockpit, etc., is to be finished in mahogany, and the flush deck will be bright.

The owner has laid out the cabin to accommodate from four to six people comfortably, there being a stateroom forward with a large clothes locker well up in the boat. This arrangement will take care of all the dunnage and clothing and keep it out of the main cabin. The berths or transoms of the main cabin are very wide and roomy, and answer both the purpose of built-in seats and of bunks. The galley and engine room are together, right next to the cabin entrance, and as the owner intends to run the boat alone, the one-man control is so arranged that he can handle everything from the wheel, which will be on the after part of the cabin directly over the engine. The placing of the ice box just inside the cabin entrance is one of the novel features of the design.

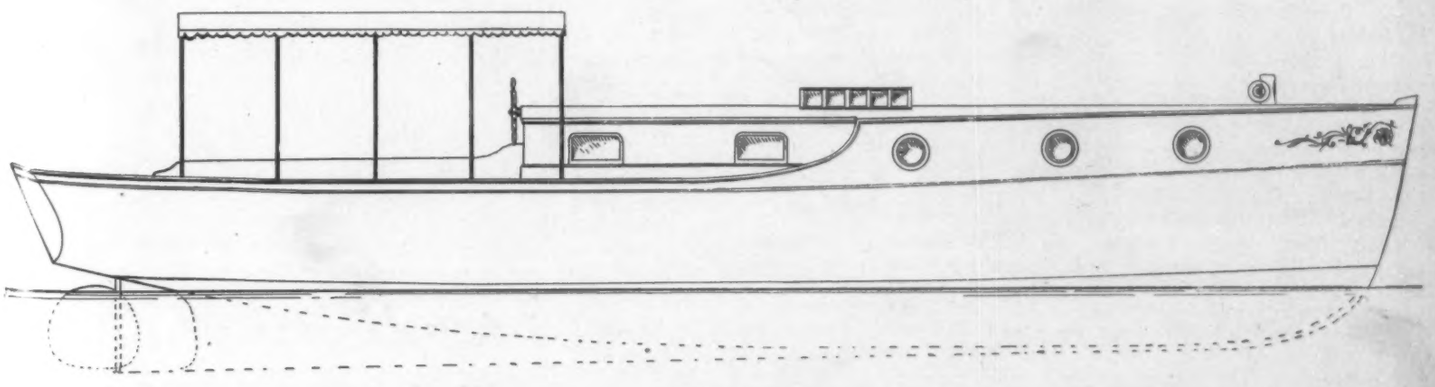
The engine comes just under the fore part of the cockpit, and the engine is covered with a working table with paneled sides, with a starting crank at the after end of cabin. The gasolene tanks, of which there are two, are of seamless galvanized iron, holding about 120 gallons, and are to be placed under the deck and sides of the cockpit, one on each side, and with short gasolene-pipe connections to the carburetor.

The extra large displacement aft, as shown by the plan, will permit of carrying all the crew in the cockpit without settling the boat to any extent from her natural trim, and an awning over this cockpit will make a very comfortable and pleasant place to lounge around while cruising, and will afford ample seating capacity for all on board.

The ignition and electric lighting is by the storage battery and generator system, and the 100-hour storage battery, which will be charged continually while the engine is running, ought to furnish sufficient light for the boat twenty hours after the engine has been stopped.

All the interior finish of the yacht is to be of mahogany, plain moulded finish with panel doors and moulded casings. The floor coverings throughout will be rugs and linoleum, and the two transom berths will be curtained off with heavy velour curtains supported on brass rods, so that the berths will be practically the same as a sleeping-car arrangement and can be made into rooms.

As it is not necessary to carry a large quantity of fresh water on inland lakes, the owner has planned to carry only a small fresh-water tank aft, with a faucet in the galley. This tank will hold about 50 gallons of water, which will be ample for all cooking and drinking purposes. All the fixtures, such as sink and basins, are to be supplied with outboard connected pumps.



EDITORIAL

Published by the Yachting Publishing Co.; Oswald Garrison Villard, President; Herbert L. Stone, Secretary and Treasurer.

A Clear and Equitable Law at Last.

We have referred so often in these columns to existing and proposed laws relative to motor-boat navigation and equipment that those who have not followed the matter closely will hardly be able to differentiate one bill from the other. But while heretofore most of efforts have gone towards preventing what was harmful in proposed laws, it is with satisfaction that we call the attention of our readers to bills recently introduced in the Senate and Lower House, which are clear, concise, and drawn with the requirements and limitations of motor boats in mind. The Senate bill is numbered 7,359, and was introduced for Senator Frye by Senator Nelson, while the House bill is 23,373, and was introduced by Mr. Greene. The bills are identical, and the requirements they propose follow:

A BILL

To amend laws for preventing collisions of vessels, and to regulate equipment of certain motor boats on the navigable waters of the United States.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the words "motor boat," when used in this Act, shall include any vessel as defined in section three of the Revised Statutes, if propelled by machinery other than by steam and less than sixty-five feet in length. The length shall be measured from end to end over the deck, excluding sheer.

SEC. 2. That motor boats subject to the provisions of this Act shall be divided into classes, as follows:

Class one. Less than twenty-five feet in length.

Class two. Twenty-five feet or over and less than forty feet in length.

Class three. Forty feet or over and less than sixty-five feet in length.

SEC. 3. That motor boats subject to the provisions of this Act, in lieu of the lights prescribed, respectively, by article two of the Act approved June 7, 1897, rule three of the Act approved February 8, 1895, and rules three, five, six and seven of section 4,233 of the Revised Statutes, shall carry, subject to the penalties prescribed in said Acts, respectively, and to a penalty of fifty dollars, on motor boats on rivers flowing into the Gulf of Mexico and their tributaries, the following lights, and no other lights which may be mistaken for the prescribed lights shall be exhibited:

(a) Every motor boat of class one shall carry the following lights:

First. A white light aft to show all around the horizon.

Second. A combined lantern in the forepart of the vessel and lower than the white light aft showing green to starboard and red to port, so fixed as to throw the light from right ahead to two points abaft the beam on their respective sides.

(b) Every motor boat of classes two and three shall carry the following lights:

First. A bright white light in the forepart of the vessel, as near the stem as practicable, so constructed as to show an unbroken light over an arc of the horizon of twenty points of the compass, so fixed as to throw the light ten points on each side of the vessel, namely, from right ahead to two points abaft the beam on either side. The glass or lens shall be of not less than the following dimensions: Class two, nineteen square inches; class three, thirty-one square inches.

Second. A white light aft to show all around the horizon.

Third. On the starboard side a green light so constructed as to show an unbroken light over an arc of the horizon of ten points of the compass, so fixed as to throw the light from right ahead to two points abaft the beam on the starboard side. On the port side a red light so constructed as to show an unbroken light over an arc of the horizon of ten points of the compass, so fixed as to throw the light from right ahead to two points abaft the beam on the port side. The glasses or lenses in the said side lights shall be of not less than the following dimensions on motor boats of class two, sixteen square inches; class three, twenty-five square inches.

On and after July first nineteen hundred and eleven, all glasses or lenses prescribed by paragraph (b) shall be fresnel or fluted. The said side lights shall be fitted with inboard screens of sufficient height and so set as to prevent these lights from being seen across the bow, and shall be of not less than the following dimensions on motorboats of class two, eighteen inches long; class three, twenty-four inches long.

WHISTLE, FOG HORN, AND BELL.

SEC. 4. That motor boats subject to the provisions of this Act shall not be required to carry the whistle or siren, fog horn, and bell prescribed by the Acts mentioned above, but in lieu thereof shall carry and use in the manner and subject to the penalties prescribed in said laws, respectively, the following:

(a) Every motor boat under the provisions of this Act shall be provided with a whistle or other sound-producing mechanical appliance capable of producing a blast of two seconds or more in duration, and in the case of such boats so provided a blast of at least two seconds shall be deemed a prolonged blast within the meaning of the laws hereinbefore mentioned.

(b) Every motor boat of class two or three shall carry an efficient fog horn.

(c) Every motor boat of class two or three shall be provided with an efficient bell, which shall be not less than eight inches across the mouth on board of vessels of class three.

LIFE-PRESERVERS.

SEC. 5. That every motor boat subject to any of the provisions of this Act, and also all vessels propelled by machinery other than by steam sixty-five feet or more in length, shall carry life-preservers, life belts, buoyant cushions, or ring buoys sufficient to sustain afloat every person on board and so placed as to be readily accessible. For failure so to carry such life-saving appliances the owner shall be liable to a penalty of ten dollars for each person for whom such appliances have not been provided. This section shall not be construed to amend or repeal any existing law requiring life-preservers.

FIRE EXTINGUISHERS.

SEC. 6. That every motor boat of class two or three, and also every vessel propelled by machinery other than by steam sixty-five feet or more in length, shall carry ready for immediate use the means of promptly and effectually extinguishing burning gasolene. For any failure to carry such means, so ready for immediate use, the owner shall be liable to a penalty of twenty-five dollars, and this penalty shall not be mitigated.

SEC. 7. That the Secretary of Commerce and Labor shall make such regulations as may be necessary to secure the proper execution of this Act by collectors of customs and other officers of the Government.

SEC. 8. That this Act shall take effect on and after sixty days after its approval.

It will be seen that this proposed law deals only with equipment, and does not alter the existing law in regard to the licensing of the operator. The only law at present on the statutes governing this point is one requiring anyone operating a motor boat of over 15 tons, carrying passengers or freight for hire, to take out a special form of license.

We heartily recommend this bill to the support of our readers. It is what we have needed for a long time. It is now up to you to do all that you can, through your Representative, to get this bill passed. The opportunity is here to get a good law on the books, and we urge you to do your share of the work.

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is as easy as putting in a half dozen Incandescent Lamps — and though done quickly, it can't be done wrong by the most inexperienced person; individual cells may be tested with Ammeter without removing Cells from Holder.

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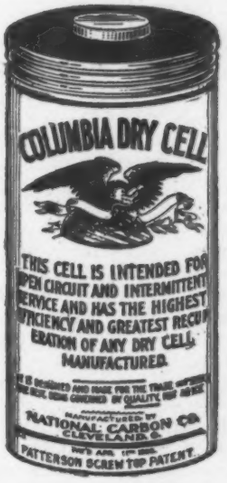
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THIS CELL IS INTENDED FOR OPEN CIRCUIT AND INTERMITTENT SERVICE AND HAS THE HIGHEST EFFICIENCY AND GREATEST RECUPERATION OF ANY DRY CELL MANUFACTURED.
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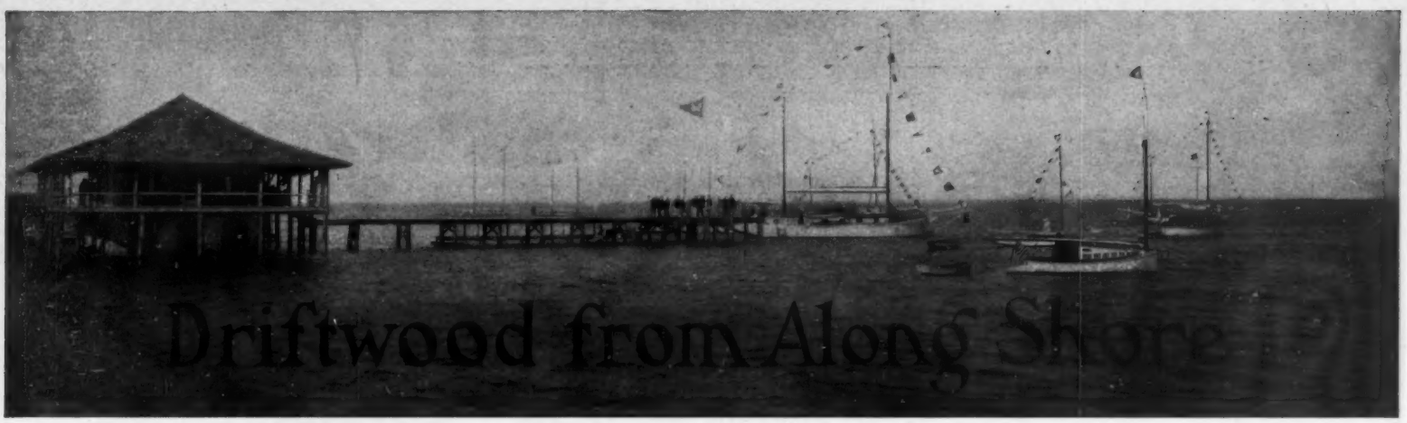


Driftwood from Along Shore

Local Sections of the American Power Boat Association

WE have received the following letter from Commodore H. T. Koerner, president of the American Power Boat Association, in regard to the organization of the association and the formation of local sections:

It was a wise and far-seeing action which the council of the American Power Boat Association took last year when it incorporated in the articles of association the formation of local sections. It is difficult to conceive, theoretically, a more comprehensive and efficient plan to produce positive and lasting results. That section of the articles of association paves the way for attainment of the hopes and aims that, at best, have had but a sporadic and precarious existence. These underlying hopes and aims consisted largely in an endeavor to bring motor boat men into closer touch with one another, to weld into a concrete form varied and at times apparently opposed methods without sacrificing the vigorous development of purely local life. All efforts that have produced the rapid rise of motor boating have, up to a recent date, been purely local, and have been formulated for the specific purposes of local application. Individual endeavor, however good and however persistent, naturally has its limitations and must in the end fail of broad, permanent success. The very fact of its being individual is the heaviest drawback, when the whole field of motor boating in the United States is the theatre of action. Working at cross purposes, local jealousies, the petty ambitions of mediocre men, the unwarrantable meddling of selfish special interests, have all conspired to prevent healthy and uninterrupted national progress to concerted action. Added to these were the exacting duties of club development, and the greatest anomaly of all, the multiplication of National organizations urged upon the bewildered motor boat men. Fostered by men with supposed ideas, each of such organizations became "National" in its efforts—not to uplift and combine, but to separate and disintegrate combined endeavor. The strangest subterfuges were resorted to in some cases to justify the existence of such ephemeral and noisy combinations, but from the very nature of things they will subside with equal speed and much less noise.

The American Power Boat Association, far apart from such methods, does not and will not depart from the dignified course it has so consistently shown during the years of its existence, and will continue to operate for the best there is in the motor boat activities of the country. In the articles of association, the object of the association is set forth clearly and specifically, and is as follows:

"The object of the association is to foster the use of power boats and the improvement of their design and power construction, to formulate rules to govern trials of speed and endurance between such boats, and to further the interests of the clubs composing its membership."

Nothing more, nothing less! It is ample. It is elastic enough to give free rein to its officers and council. It is comprehensive enough to hold within its body the whole tremendous vitality of the sport, and it is powerful enough to maintain the normal development of the whole field of motor boating against the constantly recurring assaults leveled against it from either its supposed friends or known enemies.

Bearing on the formation of local sections, it can be best described by comparing it with Federal, State and Municipal activities, the "Municipal Activity" representing the actual business and social life of each individual motor boat club. The "State Activity" representing these individual clubs in the local section of five or more clubs. The "Federal Activity" being the representatives of these local sections, together with the officers of the parent organization, who, together, form the council of the American Power Boat Association. Each local section is to elect its own officers, adopt its own distinguishing name and conduct its business in its own manner. Each section shall be composed of five or more clubs. Each local section shall have the power to adopt such local rules and regulations as it sees fit. The chairman of such local section becomes a vice-president of the American Power Boat Association. It can be readily seen that a council of such representative men from every section of the country will very nearly approximate an ideal condition. This council will use its collective power against any and all assaults and speedily neutralize any detrimental efforts affecting the best interests of motor boat users. It will thwart all legislative attacks, either sectional or National. It will lay a strong hand on exploitation by selfish interests. Finally, each vice-president, as chairman of his local section, will bring to the council the needs and requirements of his own particular section, and a clear understanding and appreciation of what the motor boat users need in every part of the country will naturally result. Sectional feeling, based on geographical location, can have no place in this arrangement. The needs of the Middle West, the requirements of the Coast, the desires of the Great Lakes and the activities of the Atlantic Seaboard will all be brought to a common melting pot, and the action of the council thus constituted will probably come nearer to a happy, concrete result for the betterment of motor boating at large than anything ever attempted in its history.

H. T. KOERNER, President A. P. B. A.

From the Eastern End of Lake Erie

Despite the fact that the club house is still to be picked up bodily and carried a considerable distance northwest of its present location, the Buffalo Yacht Club will have its formal opening about the usual time, probably the last Saturday in May. The official announcement will not be made until there is no possibility of further delay, but the house committee is confident that everything will be spick and span by that time. The new foundation is completed, and everything is ready for the actual moving of the house, including the necessary dredging. Few changes of importance will be made. Last year the club spent upwards of $2,000 on improvements, and after considering the situation carefully the house committee has decided that little could be done to increase the comfort of the place without remodeling the whole house.

The Buffalo Launch Club will be able to breathe easier this season because of the action of the State land board granting the club title to certain lands under water on Grand Island. Sometime ago the Launch Club built a 200-foot dock in front of its house. Owing to the fact that this dock was on government property, the club had in reality only squatter's rights to it, and therein lay a remote chance of trouble; but more immediate was the annoyance caused by people who wandered over from a nearby pleasure resort and took temporary possession of the dock. Because it was on public property the club had no right to make them move off, but henceforth the use of the dock will be restricted to club members.

Just before the close of the Buffalo Power Boat and Sportsman's Show, preliminary steps were taken for the organization of the new power boat organization, to be called the Great Lakes Power Boat Association. A committee was appointed to draft a constitution and by-laws and call a meeting here later. Among those who took part in the preliminary conference were: Dr. J. M. Gibbons, chairman of the regatta committee of the Thousand Islands Yacht Club; President Herman T. Koerner, of the American Power Boat Association; Lewis J. Johnson, secretary of the Cleveland Power Boat Club; C. W. Cuttler and W. A. Philpot, of Niagara Falls; President R. E. Power, of the Lakewood Club; H. Penton, of Cleveland; Rear Commodore F. H. Bliss, of the Buffalo Motor Boat Club; R. Jerguemann, commodore of the Frontier Launch Club; R. Trossin, commodore of the Twin City's Motor Boat Club; Dai H. Lewis, of Buffalo; Commodore Fred. Fenster, Vice-Commodore George A. Rix, Fleet Captain Charles Alt and other members of the Buffalo Launch Club; Vice-Commodore Edward F. Dold and H. Kelly, of Buffalo Motor Boat Club.

Local motor boat owners are heartily in accord with the movement on

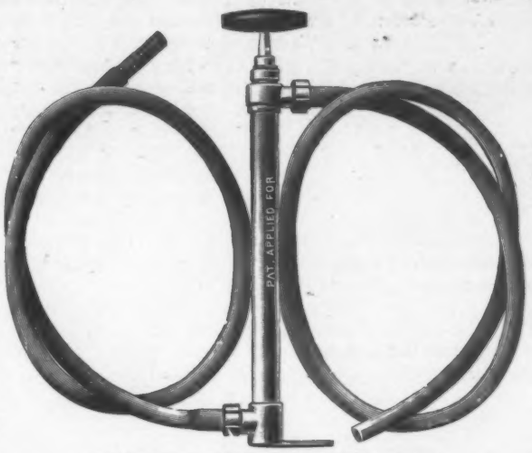
SOME DURKEE SPECIALTIES

FOR YOUR MOTOR BOAT

The New Durkee Bilge Pump

(*Patent Pending*)

is a distinct improvement over the other kind which looks so much like it. The length of hose which serves as an intake allows the footrest of the pump being placed on a locker, seat or deck, which means that the operator is not obliged to put a twist in his back to clean out every drop of bilge water. For washing decks and cleaning off an anchor on moderate-sized craft, the ease by which the intake hose may be dropped overboard while the operator is standing on the deck is a mighty taking feature.



THE NEW DURKEE BILGE PUMP

The Durkee Wheel Control

The Durkee Wheel Control gives one person complete control of the boat, just as a similar method gives the driver complete control of an automobile.

The spark and throttle levers are situated within the rim of the steering wheel.

This method of control is the most satisfactory way of keeping in the hands of one person the operation of a motor boat.

The Durkee Power Whistle

gives a long, continuous blast or a series of short, sharp blasts—at will—and has great distance and penetrating power.

The Durkee Whistle is fastened near the rim of the flywheel of the motor, and is operated by pulling whistle rope, which is attached to lever, bringing friction wheel in contact with the flywheel of the engine.

THE DURKEE PATENT THIEF-PROOF DECK PLATE

The Durkee Patent Thief-Proof Deck Plate

There are two ways to open it—by a key or a jimmy. The fellow who steals gasoline can't follow this calling if you have one of these Deck Covers. You have the key. He may have a jimmy, but to work a jimmy makes a lot of noise.

The Durkee Patent Keyless Deck and Hand Hole Plate

The Cap of this Plate may be inserted without the use of a key of any kind. Instead of a thread to hold it in place, a couple of springs, actuated by studs in the flange of the cap, fit into a groove in the plate, and it may be inserted or removed instantly. This plate, in the 4-inch size, makes a particularly good hand-hole plate for covering the supply valve at the gasoline tank, which in many open craft can be approached only by removing the portable bulkhead.

THE DURKEE PATENT KEYLESS DECK and HAND HOLE PLATE

C. D. DURKEE & CO., 2 South St., New York

foot to replace the present impossible requirements for power boats by reasonable rules. They approve of the bill introduced by Representative Greene, of Massachusetts, allowing motor boats of less than 25 feet to carry a combination light and exempting them from being equipped with a whistle. They hold that while it is only proper that regulations should be made to prevent accidents, there is no need of fitting a skiff out like a steam boat.

President Herman T. Koerner is advocating a plan of forming the five boating organizations at Buffalo into a special section of the American Power Boat Association, and it will probably be done, although some of the clubs are not now members. The organizations referred to are the Twin City Motor Boat Club, the Motor Boat Club, the Buffalo Launch Club, the Frontier Launch Club, and the Buffalo Yacht Club.

C. B. McCUAIG.

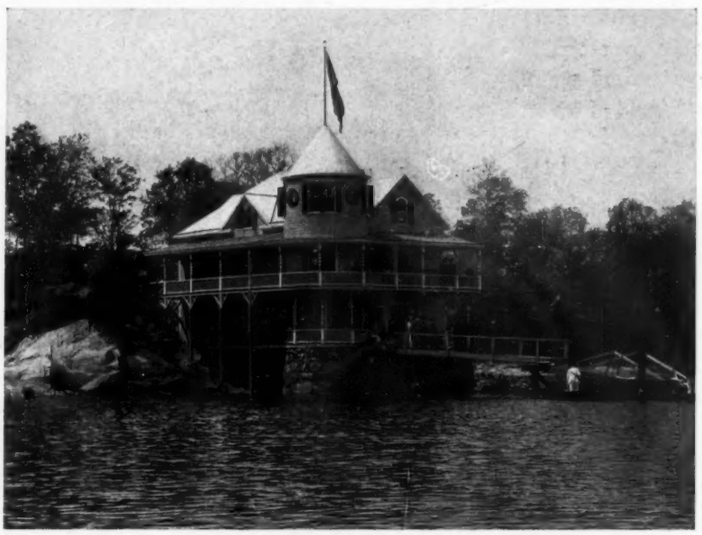
From the Jersey Coast

NEW JERSEY INLAND WATERWAY.

Under the able leadership of Harry B. Scheinieder, who was appointed by the Governor to boss the job with a corps of efficient engineers, this big and important project is taking rapid strides toward completion. All winter from Cape May to Bay Head, State surveyors have been hard at work completing the surveys in preparation for the dredging this coming summer. The hard winter has retarded the work, and the men have suffered hardships, but the job has forged ahead nevertheless.

At the present time Grassy Bay is the point of activity. It is said of this place that no man has ever successfully navigated it more than once. A corps of seven men have been on this ground since December, and in another month bids will be received for the big task of digging the channel. Grassy Bay is declared to be the toughest proposition along the entire route, the main difficulty being the isolation of the men and dredges. It is 4 miles to the nearest source of supplies, and while digging through this desert of mud, water and coal must be pulled through after the dredging scows.

It is expected that much difficulty will be found in cutting through Cedar Bonnets to Harvey Cedars, Surf City, and west of Love Ladies Island, but after these points have been passed, the route enters Barnegat Bay, where navigation is easy, on up to Bay Head, with 8 feet of water at all times. From Bay Head to Nantiloking Bridge, and to the east of Herring Island, the waterway has been completed.



NORWALK YACHT CLUB.

The southerly end of the waterway was completed last month, when a channel 6 feet deep and 100 feet wide was made from Herford Inlet to Cold Spring Inlet, giving Anglesea, Wildwood and Holly Beach deep water inside, and incidentally opening up a section which has been heretofore almost impassable for any craft drawing over 18 inches of water.

With the completion of the surveys now being made, no time will be lost on the last stage of the work, and before the year 1911 passes, the small yacht owner will cruise from Bay Head to Cape May without having to suffer the trials and tribulations of a night in the mud off Harvey Cedars, or the agonies of a day and a night high and dry in the middle of Grassy Bay, entirely surrounded by greenhead flies and mosquitoes.

ATLANTIC CITY YACHT CLUB.

With the closing of this letter we must bid farewell to the yachting world as the old Atlantic City Yacht Club. For many years the Philadelphia yachting colony in Atlantic City has been the controlling factor in the club, due mainly to the growing tendency of Philadelphia yachtsmen to make Atlantic City their summer headquarters. As a natural consequence the club in its entirety has been sold outright to Philadelphia men, who will make of this old club, in the future, a private club. Extensive docking facilities will be provided, and the handsome private yachts of the new owners will soon ride at anchor in Gardner's Basin.

SEASIDE YACHT CLUB.

We are mighty glad of the opportunity to talk about ourselves once more, for everything points to a successful season and a big time for the club during the good days fast approaching, and if we couldn't hash about it for a few weeks before the fun starts half that eager feeling of expectation would be lost.

We haven't seen that new speed boat of Walter Reed's yet. The wags have it that she will clean up everything else of her class in the inter-club races. The official racing schedule is not out, but from the steward, who always serves us the correct "dope" with every five-cent cigar, we learn that the race committee is going to give us five ocean races this year. That Havana race comes first, and after that anybody who comes around the club talking anything else but race won't get a hearing, because we'll be too busy.

June 15 has been set for the open ocean race. This means both sail and power boats, and is good for 15 miles to windward and return, over the old course. July 8 is the date that keeps all the boys up nights figuring their own chances and the chances of the other fellow. It is "the" big time of the season, namely, the triangular race of 138 miles for auxiliary yachts and cabin cruisers. The course will run from the Whistling Buoy off Brigantine Shoals south to Fenwick Lightship, thence to Overfalls Lightship and return to Atlantic City. The time set for this race will give the Havana racing fleet time to refit and overhaul in order to get in the running again.

Then comes the annual open Regatta of the club about August 1, heretofore held on the inside course, but which will be run off this year on the big, broad briny. The winners of these events take the challenge cups and championship pennants. August 3 winds up the deep-sea going when the open boats of 20 to 40 feet will sail the 15-mile race to windward and return off Brigantine Shoals for their Challenge Cup.

Captain Parsons is making great progress with his navigation school, and the boys expect the instruction to be of great value to them in the long ocean races.

LONGPORT YACHT CLUB.

Just a bit of not very ancient history. In the summer of 1908, after much labor and hard work, a charter was obtained for the Longport Club, and with this necessary incentive the charter members worked still harder, which resulted in a growing membership list of 75 good, able seamen by the end of the season. Then we got underway with a rush; docking facilities and a club house went up in the fall; various committees were appointed in the winter, which planned regattas and a real, live racing schedule ready to be done up last season. We were "busted," but happy, for we had at last something we could call our own.

There were a number of races for both sail and power boats. Commodore's Cup, a perpetual trophy; the Board of Governors' Cup for 25-foot motor boats; the Phillips Cup, for two out of three wins in the cabin cruiser class; the Brice Cup for rocket boats, and the Petit Cup for yachts. These were all handsome trophies and caused some tall scratching before they were tucked away by the winners.

We claim the record for quick organization, and now we're going after our rivals around here this season in a way that will make these waters sizzle. We also beg to state that we have several speed boats on the ways this spring which are now nearly ready to take the dip.

Don't forget, all you who roam the deep, that we are in the running now, with plenty of room for visiting yachts, a fine stream of water to fill your tanks; a gasolene station next door. We are only 3 miles from the sea buoy; the latch string is always out, and when you come in we'll have a story for you nearly as good as yours.

VENTNOR YACHT AND MOTOR BOAT CLUB.

The rapid growth of this club is a source of wonder to the ardent followers of the sport, in fact we can hardly believe it ourselves. During the last four years our little crew of 40 members has increased to 170, and in order to maintain the comfort and enjoy the luxury which has always been ours in the club house, we must build an addition next year. And we don't hesitate to hand most of the credit to the officers for their energy and devotion to Ventnor.

Vice-Commodore Brigham has the Calif ready for the starting gun of the Havana Race, and we've got a few to say that she comes home first.

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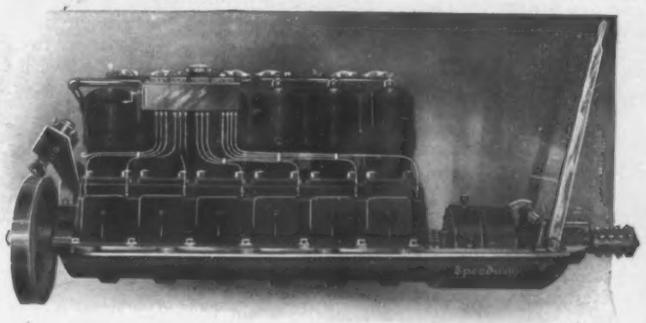

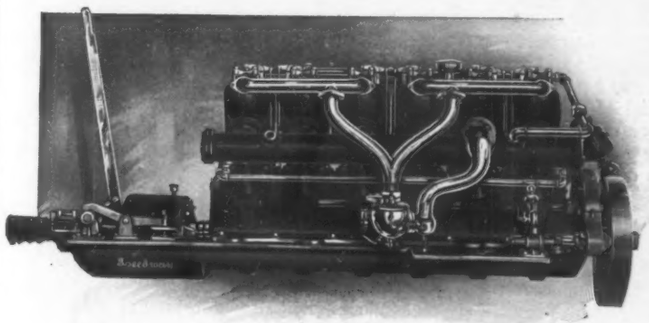

"Speedway" engines are well adapted for any class of boat, commercial or pleasure types. Let us send you testimonials from satisfied customers.

"Speedway" engines are built in sizes from 4 to 250 H.P. We carry them in stock.

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We will submit a specimen plate or goblet decorated with any design, together with estimate—free of charge and entailing no obligation to buy.

Our beautiful booklet "Under the Ensign," containing full particulars, and list of Yachts carrying Higgins & Seiter Table Services, sent on request.

"BUY CHINA and GLASS RIGHT"

West 21st and 22d Streets JUST EAST OF SIXTH AVENUE **New York**

Commodore Joseph Thompson reports great progress in the building of his 60-foot cabin cruiser Isabella, and he promises to have her at the starting line for the big race of the Seaside Club in June.

By the first of June the fleet will be increased by the addition of twenty-four new power boats, and two new racing yachts, ranging from twenty to sixty feet in length. Now give us that Inside Waterway and we'll be happy for all time.

RALPH HARCOURT.

A Race for the Brooklyn Yacht Club Ocean Challenge Cup

The longest race for small boats this season, so far as we know now, will be the contest for the Brooklyn Challenge Cup, now held by the New York Athletic Club, by virtue of the victory of H. A. Jackson, Jr.'s sloop Victory, over the Mopsa, of the Harlem Yacht Club, last year.

The New York Athletic Club has received a joint challenge for this cup from the Harlem and New Rochelle Yacht Club, the sloop Amorita, Mr. F. G. Bragdon owner, being the Harlem Yacht Club representative, and the Waialua, Mr. H. L. Stone owner, representing the New Rochelle Yacht Club.

Beside the two challenges, entry has been received of Rowdy, Mr. H. S. Duell representing the American Yacht Club. As the race is open to other entries beside the challengers, it is probable that several boats will be added to the list of starters before July 2.

The conditions call for a course of at least two hundred miles outside of headlands, with start or finish from the Brooklyn Yacht Club, and practically the same course has been chosen as last year; from New Rochelle to and around Vineyard Lightship, outside of Block Island and Long Island.

The following are the special conditions of this race:

Start—Will be at 10 A. M., July 2, 1910.

Course—From the starting line off Huckleberry Island, New Rochelle, to and around Vineyard Sound Lightship; thence to finish line off Brooklyn Yacht Club, Gravesend Bay, passing south to Block Island and Long Island; distance, 280 nautical miles.

Entries—Must be received at the New York Athletic Club, Travers Island, N. Y., on or before midnight, June 20. Each entry must be accompanied by a certificate of measurement from the measurer of the club in which the yacht is enrolled. All boats entered must be at the New York Athletic Club anchorage, Travers Island, at or before 3 P. M., Friday, July 1, for inspection.

Prizes—In addition to the Challenge Cup a special prize will be awarded to the winner, a second prize if three yachts start, and a third prize if five yachts start.

H. A. JACKSON, JR., Chairman.
409 Pearl Street, New York City.
C. S. KING.
A. B. FRY.

Race Committee.

CONDITIONS.

Article II—The cup shall be raced for by vessels propelled by sails only. The boats must be yachts built and used for cruising and must conform to the following requirements:

To be of a seaworthy type, substantially built, strongly rigged and properly ballasted, with closed cabins and watertight cockpits. Their rating must not exceed 31 feet. They must have a specified head room over a specified number of square feet of cabin floor as follows:

RATING.	HEAD ROOM.	CABIN FLOOR.
Over 30 feet.	6 feet 0 inches.	36 square feet.
" 29 "	5 " 11 "	33 " "
" 28 "	5 " 10 "	30 " "
" 27 "	5 " 9 "	27 " "
" 26 "	5 " 8 "	24 " "
" 25 "	5 " 7 "	22 " "
" 24 "	5 " 6 "	20 " "
" 23 "	5 " 5 "	18 " "
" 22 "	5 " 4 "	16 " "
" 21 "	5 " 2 "	14 " "
" 20 "	5 " 0 "	12 " "

This measurement for headroom shall be taken from the underside of the deck or cabin top beams to the topside of the floor boarding, this latter to be laid over and not between the frames. The square feet of floor space to be found by taking the length and breadth of the floor space over which the specified headroom exists, and not to include space taken up by bunks, transoms or lockers, but to include space occupied by centerboard, trunk or table.

Boats must carry a complete cruising outfit of anchors (2), cables or chains (2), compasses (2), lights, leadline, charts, etc. Stores sufficient for ten days must be carried.

Lower sails must be those carried by the boat when measured; no restrictions as to light sails.

A United States Life Service cork jacket for each person, also two ring-buoys on deck must be carried.

The combined length of the fore-and-aft overhangs shall not exceed one-third of the boat's over-all measurement.

Boats with bulb keels, metal fins or balanced rudders are barred.

Article III—Races shall be sailed under the rules of the challenged club, except as regards the rule for measurement, for computing the time allowance. This measurement to ascertain the rating shall be taken according to the measurement adopted by the Atlantic Coast Conference and by the Yacht Racing Associations of Long Island Sound and Gravesend Bay in the year in which the race is held. The time allowance shall be calculated according to the table in use by the above associations in the year in which the race is held.

Article V—The crew of a competing yacht shall not exceed six persons, all of whom must be amateurs. The master or skipper of the vessel must be a member of the club under whose flag the yacht is entered. Inside cabin must have permanent transoms or bunks and lockers. The water tank must be fixed, and a supply of 8 gallons per man must be carried.

Article VI—The master of each competing yacht shall file with the committee twelve hours before the start a list giving the names and occupations of his crew, and shall certify to their being amateurs.

Article IX—After the challenge of the challenging club has been accepted by the club holding the cup, any other organized yacht club may enter a yacht or yachts for the race, upon its officers agreeing to observe and maintain the terms and conditions of this instrument. Any of the clubs may be represented by one or more yachts.

Article XI—The challenged club, or the committee appointed by it to manage the race, shall have the power to reject the entry of any yacht in whose design, construction or equipping is shown an inclination to evade the terms of Article II, either in substance or spirit.

Chesapeake Bay Yacht Racing Association

The Chesapeake Bay Yacht Racing Association, which was formed last July, and which includes practically every yacht and motor boat club on the Chesapeake Bay and its estuaries, held its first annual meeting in Baltimore, April 2, elected officers for the ensuing year, and made up dates and arrangements for the annual cruise and regatta that will be held in July.

Under the schedule arranged, the fleet of the Hampton Roads Yacht Club, and a contingent from Richmond, are to get under way from Old Point Comfort and to proceed to Colonial Beach, in the Potomac River, arriving there July 18. At Colonial Beach the fleet of the Capital Yacht Club will join the Virginians, and on the following day they will race to Soloman's Island, in the Patuxent River, where the fleet from Baltimore will rendezvous on July 19.

On the morning of July 20 the entire fleet, divided into classes, will race to Oxford, and that evening the Chesapeake Bay Yacht Club will act as hosts. The following day will be the great Regatta Day of the Chesapeake Bay Yacht Club, and besides the canoe and bateau races, there will be races for the sloops, yawls and motor boats.

The next morning will see the entire fleet en route for Annapolis, the boats racing in their respective classes. On July 23 there will be a series of races in the bay, at the conclusion of which the regatta week will close. It is expected, however, that the down-the-bay yachtsmen will come to Baltimore as guests of the head-of-the-bay men, and if they do they will be entertained at the home of the Baltimore Yacht Club.

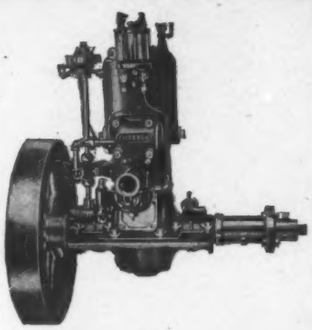
S. S. SCOTT.

Norwalk and Vicinity

The annual meetings of the Norwalk and East Norwalk Yacht Clubs were held February 19 and 26, respectively. The reports of the officers of the Norwalk Yacht showed the club to be in excellent shape. The treasurer reported a surplus of $210 from last season, which enabled paying off $100 of the club's debt.

The nominations for officers for the coming year were considered and the following were elected. Commodore, Dr. Lauren M. Allen; vice-president, James H. Bailey; rear commodore, Russell B. Budd; secretary, George E. Curtis; assistant secretary and treasurer, Robert G. Mitchell. The governing committee are: Horace S. Hatch, William H. Byington and Victor W. Ferris. The selection of the regatta committee was left to the governing board. The most important matter to be discussed was the subject of enlarging the club house at Hickory Bluff. The committee who were considering the matter reported favorably. To make the changes it would be necessary to get pledges for $7,000, and of this amount over $4,000 has been secured. Many of the subscribers expressed their willingness to double their subscriptions if necessary.

The following were elected officers of the E. Norwalk Y. C.: Commodore, Harry Rider; Vice-Commodore, E. R. Buck; secretary, H. W. Wright; treasurer, Edwin L. Hanford. The rear-commodore's berth will be filled at a later date.



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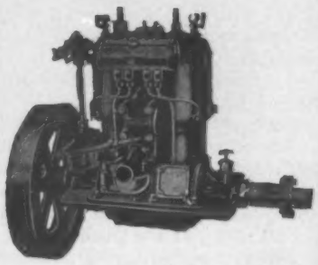

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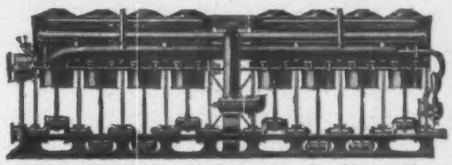

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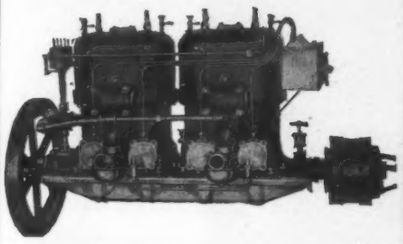

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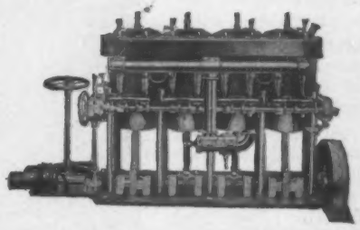
What the equipment is, our catalog tells; glad to send it.

The Emerson Engine Co., Alexandria, Va.



Have you ordered your

"COLUMBIAN" YACHT ROPE?

Smooth as a Whistle. ***Bright as a New Coin.***

You had better order "COLUMBIAN" Yacht Rope right away, as later your outfitter's stock may be entirely exhausted.

Undoubtedly your dealer has this fine rope in stock, but if for any reason he cannot supply you, write to us and we will see that you are supplied. : : : :

COLUMBIAN ROPE COMPANY

1115-1155 GENESEE STREET AUBURN, N. Y.

NEW YORK OFFICE, 62 SOUTH STREET

Of Interest to the Skipper

Trophies of the Race No, this isn't an exhibit of a jewelry manufacturing concern, although it bears a strong family resemblance thereto. It is a photograph of a few of the cups that were won during last year's races by the proud and happy possessors of boats in which Gray motors were the power plant.

There isn't a tin mug in the collection, each and every one being a "sure 'nuff" silver or gold affair. Each represents a championship won during 1909, and the Gray Motor Company tell us that they represent but a small percentage of the actual number of events in which a Gray motor pushed a boat first over the finish line.

The fact is, the Gray Motor Company, at three-quarters past the eleventh hour, thought that an exhibition such as this would interest those attending the New York Show, and from an incomplete list which they possessed of the Gray winners during the past season, addressed telegrams requesting the loan of the trophies to adorn the Gray booth at the New York Motor Boat Show.

Necessarily but few, comparatively, could respond at such short notice, but those who did certainly served to demonstrate what a splendid showing these engines made in the 1909 regattas.

Some of the good things which went to Gray owners.

Launching of an Elco Twin Ethel May II, a twin-screw motor yacht, designed and built by the Electric Launch Company, of Bayonne, N. J., for Albert E. Smith, Esq., of New York, was successfuly launched at the yards of the builders at Bayonne, at 11 A. M., April 12.

The Ethel May II is 98 feet over all, 16 feet beam, and flush decked. The hull is heavily constructed of wood, oak framed, yellow pine planked, copper fastened. The cabin accommodations are very spacious, affording a full-width double stateroom for owner, a main saloon, three single staterooms, owner's bath and guests' lavatory. The dining saloon is on forward deck, adjacent to galley, which is below main deck, while the crew's quarters are forward and accommodate six men. The power equipment consists of two 75-horsepower, six-cylinder gasolene engines, which are located amidships, gasolene supply being carried in copper tanks, holding 1,000 gallons.

The Ethel May II is a sister ship to the Paula, which is being designed and built by the same company for Mr. J. Stuart Blackton. These two boats are identical in hull design and construction, interior cabin arrangements and in power equipment. The Ethel May II is about completed, and will be placed in commission within a few weeks. Paula, Mr. J. Stuart Blackton's yacht, will shortly be launched, and will be placed in commission at the same time as the other.

Among those attending the launching were Mr. and Mrs. Albert E. Smith, Mr. and Mrs. J. Stuart Blackton, Mr. and Mrs. Henry R. Sutphen, Mr. and Mrs. E. B. Conrad, Mr. and Mrs. E. A. Riotte, Capt. C. H. McLellan, Mr. C. B. Orcutt, Dr. Ernest M. Stires, Mr. Maurice Barnett, Mr. Isaac L. Rice, Mr. F. G. C. Lyon, Mr. James W. Husted, Mr. Thomas Fleming Day, Gen. G. E. P. Howard, Mr. A. W. Booth, Mr. Lewis Nixon, Mr. Charles E. Annett, Mr. Michael Piel, Mr. J. H. Ottley.

Mr. Henry F. Lippitt, of Providence, R. I., and a member of the New York Yacht Club, has placed with the Electric Launch Company, Bayonne, N. J., an order for a 93-foot yacht for use on Long Island Sound, from designs by William Gardner, of New York. The dimensions are: Length over all, 93 feet; beam, 14 feet; draft, 4 feet.

Construction is of the highest grade—light, but very substantial. The lines are fine, affording very high speed possible from a boat of this size, permitting also the best of seaworthy qualities. The hull is double planked, copper fastened throughout. Deck houses are finished in selected mahogany, interior being in white enamel and mahogany trim. The power plant consists of two 100-horsepower Craig engines, which will give a speed to the boat of 15 miles per hour.

Mr. Lippitt is the owner of the racing sloop Winsome, and will use his new yacht as a tender for his racing craft. She will be enrolled in the New York A. C.

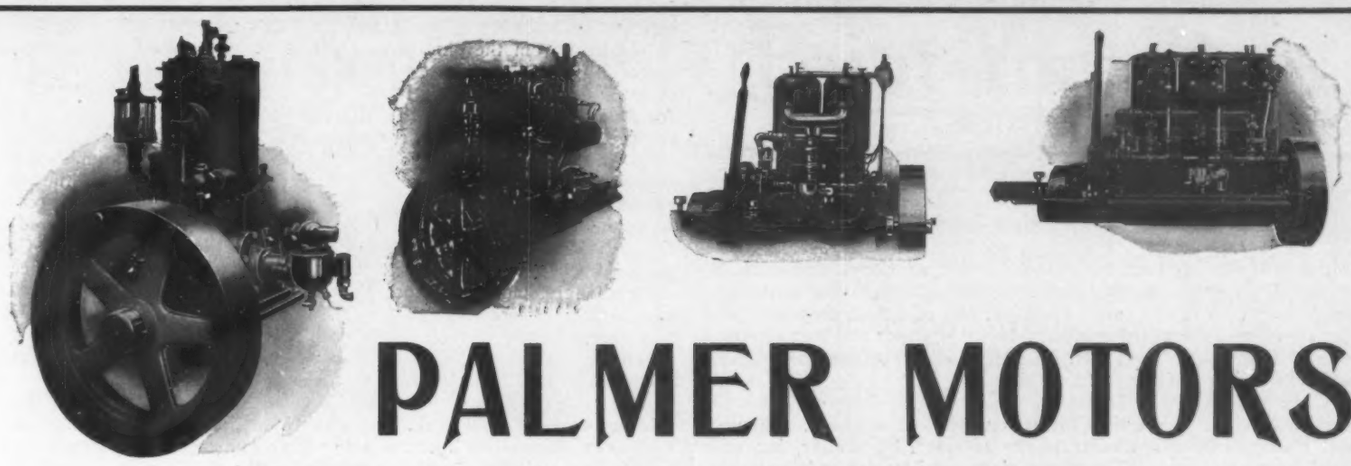
Mr. F. G. C. Lyon, of New York, member of the New York Yacht Club, has placed with the Elec. Launch Company an order for a 61-foot Elco motor yacht, for use on Long Island Sound. The new boat will have an over-all length of 61 feet, beam of 10 feet, and draft of 3 feet, and be of highest grade hull construction, with oak keel and frames, cedar planking, copper fastened. Cabin house is built of mahogany. Interior of owner's quarters are finished in white enamel with mahogany trim, while engine room is finished in selected ash. Fittings and furnishings are of the best throughout. The power equipment will consist of a 40-horsepower, six-cylinder Standard gasolene engine, giving the boat a speed of 13 miles per hour.

Accommodation is provided for four in the owner's quarters in comfortable berths, and for two in the engine room, while there is an open cockpit aft to accommodate a large company in wicker chairs. The yacht will be equipped with a signal spar and stack for ventilation of engine room.

The owner intends to use the boat off Sands Point on Long Island Sound, principally day service, with occasional week-end cruises. Most comfortable cabin accommodations are provided for day service.

Mr. Lyon will call the yacht Bettina, and she will be enrolled in the New York Yacht Club fleet. She is to be ready for delivery June 15.

Mr. Adolphus Busch, of St. Louis, purchased the Elco de Luxe 54-foot motor yacht which was exhibited at the New York Motor Boat Show.



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Fifteen Years of Successful Building

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Cylinder. Jump Spark and Snap Spark.

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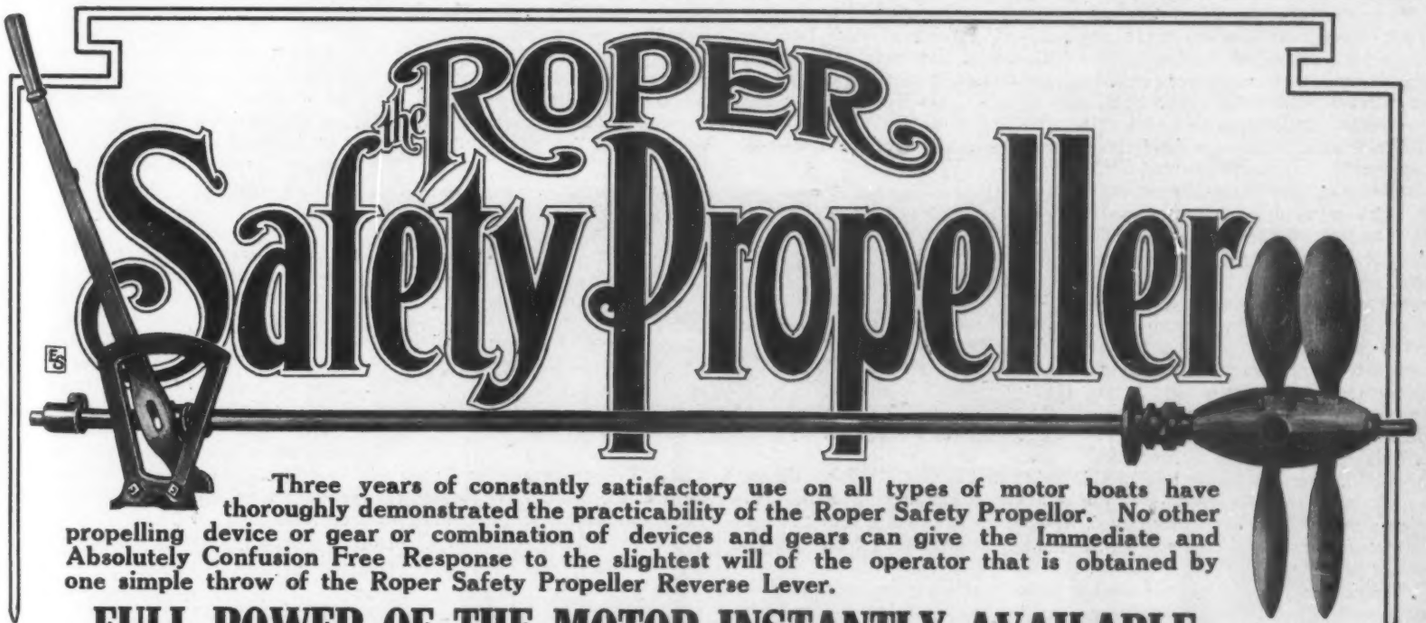


the ROPER Safety Propeller

Three years of constantly satisfactory use on all types of motor boats have thoroughly demonstrated the practicability of the Roper Safety Propellor. No other propelling device or gear or combination of devices and gears can give the Immediate and Absolutely Confusion Free Response to the slightest will of the operator that is obtained by one simple throw of the Roper Safety Propeller Reverse Lever.

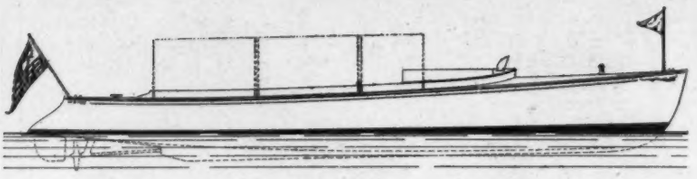
FULL POWER OF THE MOTOR INSTANTLY AVAILABLE

With the Roper Safety Propeller the motor always turns at practically the same speed and under the same load regardless of the direction or speed of the boat. The progress of the boat is governed entirely by the position of the propeller blades. There is no undue strain on the motor, no adjustment of throttle or spark to meet the varying work demanded of the engine. The resistance against the blades is maintained constant. Like the throttle of the steam engine the Roper Safety Propeller Reverse Lever does all the work. Engine Racing or Stalling is done away with once the motor is started.

BOW CONTROL.—For use on the boat where control is desired alongside, forward or back of the motor, the Roper Safety Propeller Bow Control offers all the Perfection of control of the regular equipment.

Write for detailed information. Send for data concerning the New Roper Speed Wheel and Shear Coupling.

C. F. ROPER & COMPANY, HOPEDALE, MASS.



Outboard Profile, 45-foot Speedway Seagoing Runabout.

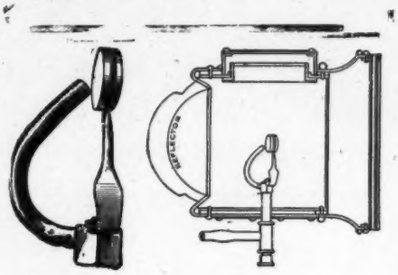
Mr. Busch will use his boat at Otsego Lake, near Cooperstown, N. Y.

The Elco de Luxe is a fast day cruiser of the highest grade construction, equipment and finish. The power plant consists of a 60-horsepower, six-cylinder air-starting Standard engine. With this power the boat develops in excess of 15 miles per hour. Mr. Busch has called his boat Chief Uncas, and will take delivery of the yacht on May 1.

Gen. G. E. P. Howard, of South Orange, N. J., has placed an order for a 45-foot Elco raised-deck cruiser for use on the coast of Maine. The plan of Gen. Howard's boat is similar to the 40-foot Elco cruiser, but with increased length and beam. The power plant consists of a 25-horsepower, four-cylinder gasolene engine, which will give the boat a speed of 11 miles per hour. The interior arrangement is the same as the 40-foot cruiser, with comfortable sleeping accommodations for five.

More Light, Less Gas Consumption No skipper, after one experience of picking up a mooring on a night when the moon was off duty, and the stars had gone on strike, ever doubted that a searchlight was a mighty useful part of the equipment of a motor boat. The more powerful the light and the more plainly it shows objects at a greater distance than these objects could usually be seen, the better the searchlight fills the bill.

Heretofore, for every increase of candle power a corresponding increase of gas consumption has been necessary. This meant that to produce a 38-candle power light, an acetylene burner consuming about a foot per hour was required, and most of us had figured that this was about the maximum of efficiency for which we could reasonably hope.



Detail of Wunderbutton Burner and diagram, showing how it replaces ordinary Fishtail Acetylene Burner.

The Wunderbutton Light Company, of 242-244 Lafayette Street, New York City, have knocked these preconceived notions of ours into the proverbial cocked hat by means of a little device that weighs but a few ounces, and which on the very small consumption of ¼ foot of gas per hour produces a 100-candle power light, that carries 1,200 feet, and is really serviceable at that distance.

The Wunderbutton is a simple brass burner, which instantly, and without any trouble, can be substituted for the ordinary acetylene burner tip. A small white disc, or button, but ⅞ of an inch in diameter, is attached in such a manner to the brass burner that, upon lighting the gas the button immediately reaches a high degree of incandesence, producing, when used on a searchlight, an illumination compared to which a 1,000-candle power street arc lamp subsides like an unsuccessful candidate the day after election.

The 45-foot Speedway Seagoing Runabout on her trial trip.

This Wunderbutton burner can be used in the searchlight, bow or side lights, and not only reduces the gas supply but increases the light, so the economy works at both ends. This means that your storage tank of gas will last from twice to four times as long as formerly, and that you will, at the same time, increase the carrying power of your light.

The cost of the device is so small as to cut practically no figure, and the only portion which needs renewing—the button—costs but a few cents. It's one of the biggest things of the season for the motor boat owner, and the Wunderbutton Light Company, of 242-244 Lafayette Street, New York City, will send you an illustrated descriptive price list if you will mention YACHTING when writing them.

A Fast and Able Open Boat In the February issue of YACHTING was published a reproduction of a photograph showing a 45-foot seagoing, 20-mile runabout, built by the Gas Engine & Power Company and Chas. L. Seabury & Co., Con., Morris Heights, New York City.

The photograph, which showed the hull of the boat blocked up, together with the description of her, awakened so much interest among our readers, that we are herewith showing a photograph of the boat afloat, making her trial run, also her outboard profile and deck plan, all of which give a much better idea of the boat's accommodations than could be obtained from the only picture extant at the time of the New York Motor Boat Show.

An Aneroid Barometer for the Yacht Cabin To the man who owns a good boat a good barometer is like a good clock. You can't have too many of them. The illustration herewith shows a very elegant little barometer arranged to be attached to the cabin, saloon or stateroom wall, where it becomes a permanent fixture readily consulted and out of harm's way. This instrument, manufactured by Short & Mason, London, E. C., division of the Taylor Instrument Companies, Rochester, N. Y., is extremely reliable, and the dial is graduated to show changes, indicating storms, wind and temperature variations. The case is solid brass, the dial being silvered metal with black graduations and figures. The index is in the form of a revolving ring with knurled periphery, so that it may be set at a given time each day, thus indicating the rise and fall of the barometer. (See page 452 for cut.)

This is one of a series of instruments made by the Short & Mason Division that are used in the navies of Great Britain and the Colonies, as well as on many ocean liners, private yachts and steamships throughout the world. A catalogue describing this and other weather instruments suitable for yachtsmen will be gladly sent, on application, by the Taylor Instrument Companies, of Rochester, N. Y.

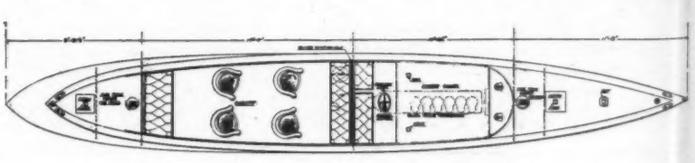
The Fairbanks, Morse & Co. Exhibit at the Chicago Motor Boat Show Fairbanks, Morse & Co., Chicago, were among the exhibitors at the Chicago Motor Boat and Engine Show. They displayed one each of their type "E" 3½-horsepower and 7-horsepower, two-cycle, single and double-cylinder engines, and one each of their new type "G" two-cycle line in sizes from 6 to 36 horsepower, of one, two, three, four and six cylinders. These engines are particularly high finished, presenting a very attractive appearance, and the operation, design, workmanship and materials were well demonstrated by two working models—one of these being a single-cylinder type "G" and the other a double-cylinder type "E" engine. The company have made several changes and added a number of new features which make considerable improvement in their 1910 line over their 1909 product.

They also showed one of their four-cycle heavy-duty type "B" marine engines, 30-horsepower size. They make this type in sizes from 10 horsepower to 100 horsepower, and this line is already well known to boat owners. These engines, together with a sectionalized Baldridge reverse gear (which is a part of their regular equipment) and a group of unassembled parts, themselves make up a very interesting and helpful exhibit.

The Syracuse Engine Entered for the Peoria Regatta One of the greatest fresh-water boat regattas of 1910 will be held July 4, 5 and 6 on Peoria Lake, Peoria, Ill. It is the annual regatta of the Mississippi Valley Power Boat Association, and will be held under the auspices of the Illinois Valley Yacht Club. Prizes aggregating $4,000 will be offered. Motor boat enthusiasts all over the country are looking forward with a great deal of pleasure and keen anticipation to the coming of the event.

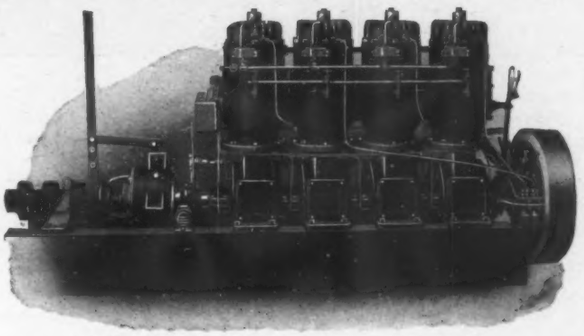
The Syracuse Gas Engine Company is especially interested because they are entering a speed boat now being built and to be equipped with their "Big Six" engine. The boat will be driven by Mr. E. J. Paradis, the general manager of the company. The Syracuse boat will be entered in the free-for-all and the 32-foot class races. While the Syracuse people are not saying much at this stage of the game, it looks very much as though other boats of equal power will have to "go some" to beat her.

The latter part of last year a reorganization of the Syracuse Gas Engine Company took place. The task that faced the new officers was to prac-



Deck Plan, 45-foot Speedway Seagoing Runabout.

THE REMINGTON OIL ENGINE



The above cut represents our 60-H.P. marine engine. This engine, in fact, all our multiple-cylinder marine engines, start by compressed air, and so do away with all the labor and danger attached to cranking or starting by hand. Our engines use no electricity either for starting or running and still they can be started in from two to three minutes after the torches are lighted. These torches are of our own design and give a blue flame, without smoke, the instant they are lighted. After the engine is started the torches are extinguished. This system of ignition, together with the substitution of a positively driven pump for a carburetor, as is used on gasoline engines, makes starting absolutely positive and insures reliability in running.

In our recent advertisements we have tried to tell you the reason for the failure of so many oil engines, and why so many people are of the impression that an oil engine will fill a cabin with a stench and is generally a thing to be let alone. We also told how our engine is entirely different in principle from the many so-called oil engines, and why it is a success.

If you did not read this article we would be glad to give you any and all information that you would like.

WRITE FOR CATALOGUE NO. 3

THE REMINGTON OIL ENGINE CO.

STAMFORD, CONN., U. S. A.

MIDDLE WEST REPRESENTATIVES

REMINGTON ENGINEERING CO., 1018 N. 6TH STREET, ST. LOUIS, MO.

YACHTING CRUISING

USE 3 IN ONE OIL

No other oil can take its place on yacht or motor boat. No other oil is half so good for keeping everything bright, shiny and in perfect ship shape.

3 in One makes brass parts and trimmings shine like new because 3 in One overcomes the tarnishing, corroding, aging action of salt water and sea air. 3 in One cleans and preserves woodwork, removing the spots, scars and stains of years from varnished surfaces.

Electrical Machinery, tools, gun locks and gun barrels all need 3 in One. It lubricates perfectly and prevents rust in any climate—on any water. Just a few drops on your strop and razor makes shaving easy. It preserves your strop, your razor and your face.

FREE Try 3 in One at our expense. Write for free sample bottle and valuable booklet.

3 IN ONE OIL COMPANY

27 Broadway, New York

Paint Your Boat a Brilliant White

When you paint your boat with Carter Pure White Lead Paint, it will be a true, brilliant, white. Carter Pure White Lead is the ***whitest*** paint you can buy—other leads are gray by comparison.

If you want your boat to be the ***whitest*** on your waters, paint it with

CARTER

Strictly Pure

White Lead

"The Lead With the Spread"

Boats painted with Carter have an individuality—they are in a class by themselves. Carter White Lead is used by the most discriminating boat owners. Aside from being the purest and whitest lead on the market, it is more durable than other leads—it gives boats best protection.

Carter is used by many of the large boat building concerns, who find it is most durable and economical. Your local dealer can supply you with Carter Lead. Don't accept the "just as good" kind—insist on Carter.

We have prepared a little booklet giving complete directions and specifications for boat painting. It will be a great help to every man who owns a boat. Drop us a card today and request a copy. We will send it immediately, free of all cost.

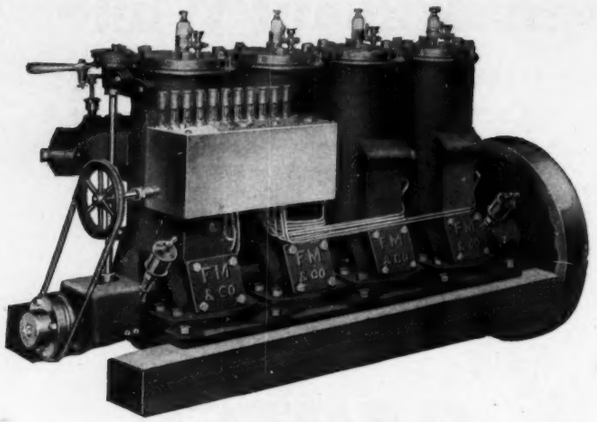
"To Be Sure It's Pure, look for CARTER on the Keg."

Carter White Lead Co.

12074 So. Peoria St., Chicago, Ill.

Factories: Chicago—Omaha (13

tically build the business anew. Syracuse engines always had a good reputation, and this helped a lot. Nevertheless, nothing very startling had ever been done to tell the power boat-loving public what a really good engine the Syracuse was. The new general manager, Mr. E. J. Paradis, the well-known racing boat enthusiast, speedily let it be known that he realized what a good engine he had to sell. That counts for a lot—because he really does know marine motors.



Four-cylinder, 24-hp. type G Fairbanks-Morse Engine. (See page 450.)

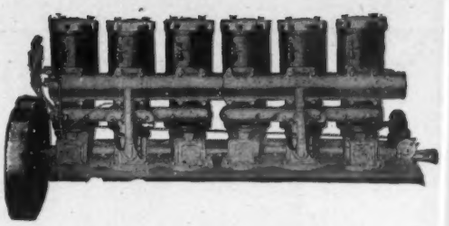
What makes the Syracuse people so confident is because of their faith that their motor, in at least one particular, is way up in two-cycle engine construction by reason of their patented combination water-jacketed condensing exhaust, which they claim ensures the perfect scavenging of spent gases. A review of what this exhaust does may be interesting and very much to the point. A cross-section of the exhaust would show four divisions. In the middle is the area for the exhaust of the spent gases. The outside or water-jacket is divided, leaving a space next to the exhaust for the section in which the air for the carburetor circulates on its way to the carburetor. As can be readily seen the exhaust, as described above, is formed from a very simple casting, and its simplicity is a big point in its favor. But consider the things that that simple casting performs; the water in the outside jacket cools the exhaust at the head and causes quick condensation of the spent gases. This, of course, means perfect scavenging of the firing chamber, and prevents pockets of steam, thereby preventing backfire. Passing through the jacket the water is warmed by the hot exhaust, and therefore does not strike the cylinder while still cold. This prevents distortion and lengthens the life of the cylinders—the chance of cracking is eliminated entirely. The air for the carburetor passes next to the exhaust, and is thereby heated, so that after starting engine the carburetor is always supplied with hot, dry air. This, it is claimed, produces a much better mixture than can be gained in the ordinary way, and increases the engine's power proportionately.

A Barometer for the Cabin Bulkhead.

A cut of the "Big Six" is shown herewith. This is the engine that will race at Peoria this summer. One can see from the cut that aluminum enters largely into the construction of the Syracuse motors. In fact, the whole engine is aluminum *except* the working parts of the cylinders—the parts next to piston travel. A great deal of weight is saved by this method of construction, but the weight saving is not overdone. It is hardly possible, the maker says, to use more aluminum in making an engine than is used in making the Syracuse and still play safe.

Some motor boat expert has said that the Syracuse Gas Engine Company's catalogue reads like a text book that a child could understand. That being the case, this catalogue ought to be mighty interesting to prospective motor boat owners. Following the usual custom, the Syracuse Gas Engine Company are mailing this catalogue to any one who writes for it.

A Maine Dory with a Sterling Engine Mr. George B. Goodal, of Sanford, Me., has had built, for his own use, a launch of dory type. This boat is 28 feet long by 7 feet beam, and is comfortably fitted out to carry eight or ten people. Equipped with an 18-25-horsepower, four-cylinder model B Sterling engine, Mr. Goodall gets from 10 to 12 miles an hour. The boat is of a good, seaworthy model with easy lines.



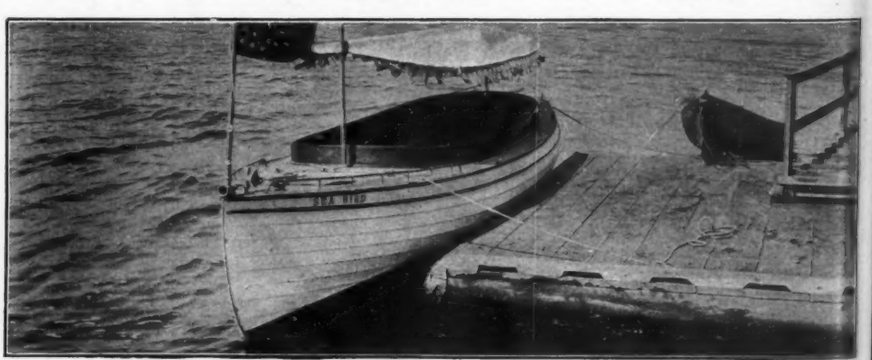
The "Big Six" of the Syracuse Gas Engine Co. that will be in their challenging boat at Peoria.

Reverse Gears vs. Reversible Propeller Wheels As either a reversing propeller or a reverse gear is indispensable on motor boats, and as there are so many beginners entering the motor boat field, a short explanation of the difference might not be amiss to the novice. Reversible wheels are made so that the pitch of the blades or the lead of the blades can be changed by shifting forward the lever, which is inside the boat next the engine. For going ahead full speed the full lead of the blades is required, while by throwing the lever back the pitch of the blades is changed so that the boat would back up again, and by putting the lever in center of the quadrant, or perpendicular position, there would be absolutely no pitch or lead, and in this position while the engine is running the boat will stand still. In this position, however, with most reversible propellers it would be necessary to throttle the engine down so it would not speed up too high. There are several advantages in a reversible wheel that cannot be found in a solid wheel and reverse gear, one of which is that a competent operator can manipulate the pitch of the blades to procure as good results in speed, and even better than a solid wheel, by adjusting the pitch of the blades so as to produce the best results, as the reversible wheel is practically an adjustable wheel, or variable pitch propeller wheel. Another advantage of a reversible wheel is that when towing the blades can be set at low pitch and will equal any towing wheel. For high speed it is necessary to give the full lead or pitch for which the propeller wheel is designed, and in some cases greater pitch would increase the speed of the boat. A reversible wheel is light in weight and occupies but little space, which are advantages in small-sized craft. There are reversible wheels that have been used for the last twenty years that are still in working order, and, in fact, up to a few years ago reverse wheels were entirely used, as the reverse gear is a comparatively new arrival in the field.

In event of a broken blade on a reversible wheel it is a very easy matter to substitute another, or even carry an extra blade along as a precautionary measure. It is true that for the last five years reverse gears have superseded reversible wheels. This is due greatly to the fact that there are more concerns manufacturing reverse gears than there are reversible propeller wheels.

The reverse gear operates as follows: With the lever in the forward position, the clutch takes hold of the drum and locks the propeller shaft and the engine shaft as one solid shaft on the go-ahead. With the lever in the perpendicular position the propeller shaft and wheel stand still, this position corresponding to the "neutral" position of the reversible propeller. With the lever in the back position, the propeller wheel is reversed in the opposite direction from the engine for backing up. A solid wheel must be used on a reverse gear. It is always necessary in buying a reverse gear to purchase one of sufficient strength to transmit the power of the engine. It is a natural tendency to buy as cheap a gear as possible, and in so doing to secure a gear too small to hold the engine at its full speed, thus allowing the clutch to slip, so that the propeller wheel will not rotate at the same number of revolutions as the motor.

There is an advantage which the reverse gear has over the reversible wheel, and that is in the neutral position, when engine is running and the propeller wheel is standing still, the boat being absolutely still, either tied to the dock or in open water, while with the reversible wheel it is almost impossible to set the blades in absolutely neutral position, so the boat will



Sea Bird, a Maine dory launch equipped with an 18-25-hp. Sterling Engine.

A Motor Guaranteed for an Unlimited Time

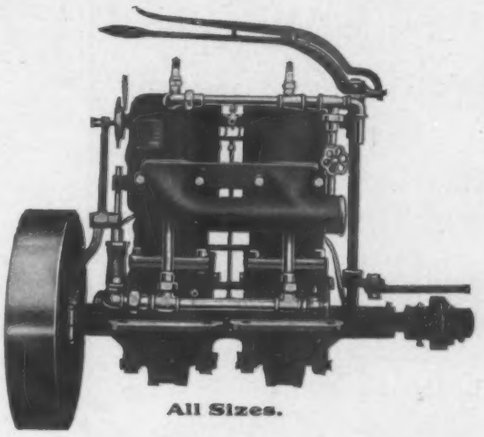
The Tuttle

WE guarantee it to be right as far as it is humanly possible to have it, before leaving our shops. If it does not prove to be so, we stand ready to make good any defect, not caused by carelessness or abuse.

YOU CAN NOW PURCHASE A TUTTLE MOTOR FOR FROM 20 TO 30 PER CENT. LESS THAN HERETOFORE

because we have done away with the old-time method of selling through salesmen and have adopted an up-to-date plan of dealing direct with purchasers.

All commissions having been deducted, you can now equip your boat at an extremely low cost. Write for catalogue and full information. It will pay you.



All Sizes.

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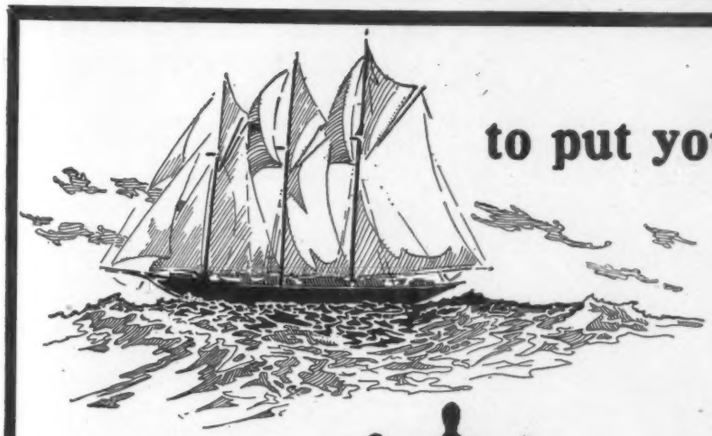

It's Time
to put your boat in commission

and the question before you is whether you want a spar varnish that will last for a few weeks or for the season. If for the season use Valspar.

Edw. Pagel, master of the auxiliary yacht "Atlantic," winner of the ocean yacht race for Kaiser's Cup, is using

VALSPAR

and says it is *The Best*

and many other masters of the best known yachts, the "Intrepid," "Sultana," "Alcione," etc., after a fair trial, say that Valspar will withstand the action of sun, wind and weather longer than any other spar varnish on the market. Write for Booklet Y, "What the Masters Say."

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VALENTINE'S VARNISHES

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HERE ARE TEN WINNERS WHICH HAVE CROSSED THE LINE FIRST WITH LOWELL DUCK

ELMINA II	TIMANDRA
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Michigan Steel Boat Co. 296 Bellevue Ave., Detroit, Mich.

stand still without having a tendency to go ahead slightly or back up.

While the majority of the America boat-owning public to-day demand the reverse gear and solid wheel it is because most everyone has the idea that a solid wheel produces more speed. This is largely a matter of opinion, for while the majority of the speed boats in America are equipped with reverse gears and solid wheels, in France many of the fastest boats are using reversible wheels.

The Michigan Wheel Company, of Grand Rapids, Mich., manufacture both the reversible wheels and reverse gears and solid wheels. Their sales to-day show a large increase over previous years on reversible propeller wheels from what they have had for the last five years.

A Noise Maker that Will Scare the Inspector The Biversone Manufacturing Company, of Gloucester, Mass., have recently made great strides in fog horn construction. The word Gloucester is associated with the largest fishing port in the world, the sea, the hardy fishermen who earn their living from the "briny" and the seamen's greatest enemy—fog. The sacrifices and trials of the Gloucester

Biversone No. 2 Combination Fog Horn and Whistle for Motor Boats.

fishermen are a matter of history. These men know what a reliable fog horn should do. Under the tutelage of these men the Biversone Manufacturing Company built a fog horn wonderfully suited to the needs of these fishermen.

They are operated with crank or lever movement—horn inside the case, double bellows air pressure—and at first glance this Biversone or fog horn looks like a small piano. They are built in various sizes, suitable for any craft. Their finish is such that no man need be ashamed of them, and they are thought capable and worthy of the richest surroundings.

This firm is also making something new—a combined fog horn and whistle—the Biversone No. 2 for motor boats. Owing to the bill now before the legislature in re fog horn and whistle, this should prove of more than ordinary interest to motor boat owners.

The Biversone Company's line of goods is worthy of inspection and attention; it is a fine assortment, and many orders have already been received and filled for their various products.

Dixie II and Hoosier Boy May Meet

In addition to the big card of speed events already in preparation for the July and August regattas of the Western and Mississippi Valley Associations, there is a probability that Peorians will see the famous Dixie II, recently purchased by Mr. F. K. Burnham, and Hoosier Boy in a match race for $1,000 as a special event. Negotiations are now being held between Commodore Tom Webb, of the Ivy Club, and Eastern boatmen regarding such an event. The subject was opened last week when the commodore received a letter from Carl de Younge, of the Buffalo Gasolene Motor Company, who asked if a purse or cup for such a race would be offered for one of the Peoria regattas. The return mail from Commodore Webb contained the information that if such a match race could be arranged he was certain the Ivy Club could offer either a $1,000 purse or a $1,000 sterling silver cup.

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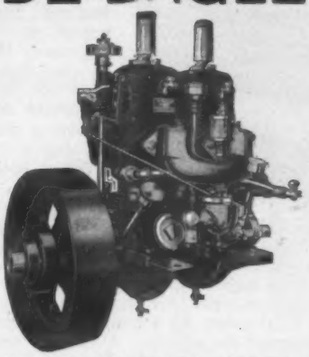

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Reputation is a Signal to Safety.—Protect Your Earning Power.

In no line of manufacture has there been so many annual changes as in the manufacture of Marine Engines, a condition caused largely by irresponsible and improperly financed companies entering this field without anything to specially recommend them. The result of this incapacity has caused purchasers, dealers and builders to associate themselves with manufacturers in this line, whose past business record and financial responsiblity has been proven by years of successful operation. This class of manufacturer has also learned to discriminate as to the quality of representation that is necessary to properly promote their interest. The tendency today is toward centralization. This applies to the dealer as well as to the manufacturer; the dealer is centralizing his efforts on a given Name with a reputation, and the manufacturer is likewise working on lines to support the dealer who supports his policies. Under this plan business relations should prove mutually satisfactory.

It will be our policy to select the very best agents dealing with this line of manufacture. Our desire is to add to our list dealers who are interested in building up a permanent business for themselves. We have the Engines, Capital, Reputation for honest dealings, and years of practical experience, all of which is offered in addition to our exclusive and modern line of popular-priced Engines. Further, if you have not had the opportunity to inspect our new 1910 Engines, it will pay you to make an extra effort to do so. It is impossible for us to explain their many distinct advantages. If we attempted to do so, you perhaps might question our statement; therefore the desire on our part for a personal inspection, which we will endeavor to arrange. We desire to say that we have more exclusive and distinctive features on our 1910 Line of two-cycle Engines than you ever imagined possible in engines of this type. Get busy and learn what we have to offer you.

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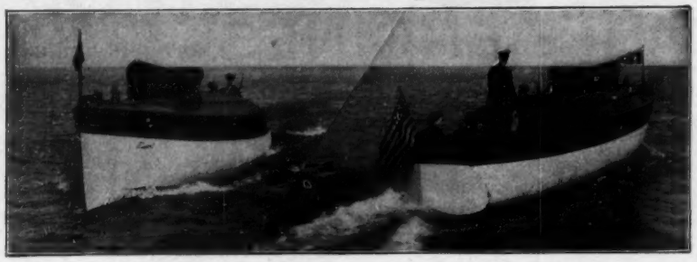
A NEW 35 x 9 FOOT TRUSCOTT CRUISER



A 35 x 9 ft. roomy and seaworthy cruiser, with many features that will appeal to the experienced. Members of our firm have tried out this craft in actual service—a total of six weeks cruising. Nothing about it that is experimental. The 9 ft. width insures a roomy boat, therefore, a comfortable one. There are two sleeping compartments separated by a toilet room, the latter being accessible from either sleeping compartment without disturbing the occupants of the other. Exceptional locker and wardrobe space is provided as well as a convenient arrangement of galley and folding table. The cockpit has a wide lockered thwart seat with high back, and space for four or five rattan chairs. The motor installation consists of a four-cylinder, four-cycle Truscott 21 H. P. motor, with dual high-tension magneto ignition, mechanical oiler, etc., an ideal power for a cruiser. The control of boat and motor is in the hands of one man. Salt water equipment throughout. Mahogany and white enamel finish. The price is exceptionally low, based on the construction of no less than ten exactly alike for 1910 delivery. Better look into this, it offers a big value. Our general catalogue illustrates and describes our entire line, except above craft. Ask for special literature if interested in it.

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STARTS REVERSES STOPS INSTANTANEOUSLY

All in an oil tight case.

The Simplest, most Reliable, most Compact, and the Smallest Perfect Marine Reverse Gear ever offered.

No outside moving parts to throw the oil or grease, tear skirts, or bruise hands, or catch waste. No noise. Made in sizes for from 2 to 80 h. p. All sizes in stock. All gears guranteed 1 year Write for special prices.

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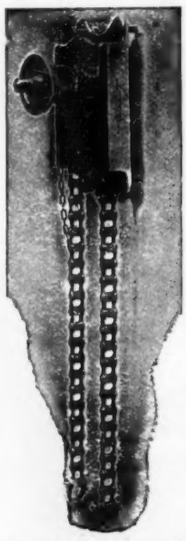

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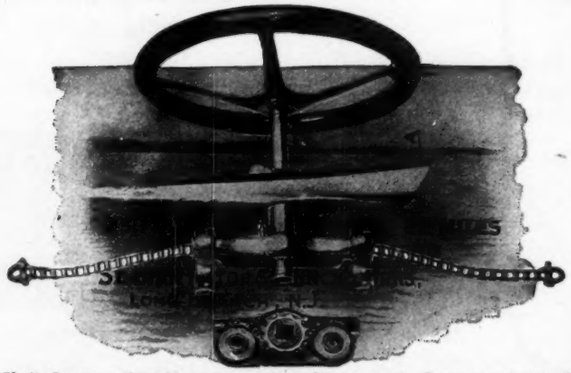

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Combination Steerer for side steerer with any style of wheel. Chain leads forward or aft as desired.

SEAMAN MOTOR AND LAUNCH WORKS

LONG BRANCH, N. J.

Evolution of the American Fishing Schooner

(Continued from page 413.)

and exceptional speed. The sharp hollow lines of the preceding clippers were replaced in the new model with long, easy curves, sweeping fore and aft in an unbroken convex arc, producing a forebody somewhat more full on the waterline than had been the practice. The afterbody was very graceful, the stern being narrowed in considerably and drawn out into a long overhang, ending in a neatly beveled oval. Part of the ballast was carried outside in the form of an iron keel casting, a decided innovation on fishing craft, which, however, was not generally adopted. The Massasoit was designed by Thomas F. McManus, of Boston, who also designed the majority of vessels of that type which followed. They proved to be very popular and soon displaced the clipper from general favor.

In 1900 radical departures from the general type were introduced, which in the past decade have completely revolutionized the American fishing vessel; namely, the use of gasolene engines for auxiliary motive power and the introduction of the so-called knockabout type.

The schooner Helen M. Gould, built in 1900, was the first of her class to be fitted with gasolene motive power in addition to her regular sail-spread, the machinery installed being a 100-horse-power Globe gasolene engine, intended for use in light weather and baffling winds principally. The sail plan was made small for that reason, the vessel proving to be exceptionally able, carrying her reduced rig well in heavy weather, and demonstrating the great advantage of auxiliary power to vessels of that type, particularly in the mackerel fishery, in running down the schools in light weather and in getting the catch to market.

(To be continued.)

The Rating Rule of the A. P. B. A.

(Continued from page 419.)

It is to be regretted that so many boat owners have an entirely wrong impression relative to the function of a measurement rule. The prevailing impression seems to be that if any number of boats are measured and rated under a rule, their corrected time should be all exactly the same when the race is finished. If the rule fails to accomplish this, "it is no good" in their estimation. Now, as a matter of fact, this is exactly what the rule will not do, for the rule assumes an ideal or perfect boat, and as such a craft has not yet been produced, it is clear that the boat with the poorest model, motor, propeller, etc., must inevitably make the poorest showing. We are all striving for something higher and better, and any rule that places inferiority on the same level with superiority is wrong in principle and practice.

In one of the Gold Cup races on the St. Lawrence five out of the seven starters on corrected time finished the 30-mile course within two minutes of each other—certainly a splendid showing.

The Bermuda races during the past three or four years were held under the rules of the American Power Boat Association, using 60 per cent. of the time allowance, but in the coming Havana motor boat race the formula and time allowance table will be used as it stands, which means that this rating rule has proved its worth under the crucial conditions of long-distance racing.

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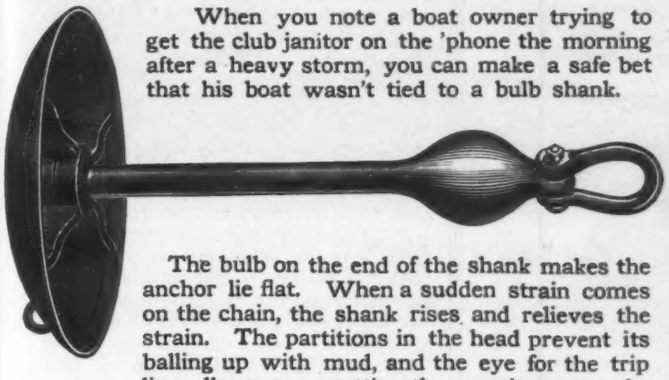
and you won't find her up on the beach or down the river after the next bad blow.

When you note a boat owner trying to get the club janitor on the 'phone the morning after a heavy storm, you can make a safe bet that his boat wasn't tied to a bulb shank.



The bulb on the end of the shank makes the anchor lie flat. When a sudden strain comes on the chain, the shank rises and relieves the strain. The partitions in the head prevent its balling up with mud, and the eye for the trip line allows you getting the mooring up at the end of the season without the use of a derrick.

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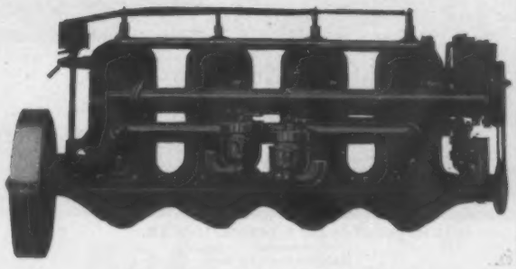

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The most perfect two cycle motor made

By every right, this wonderful new Vim claims—yes, demands the serious consideration of every speed boat owner.

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We have brought the simple two cycle engine to a state of perfection never before attained.

The fact that this new Vim actually developes over 60 per cent. more power than the ordinary two cycle of like size, and more than any other engine in the world of the same size, is significant and important.

But not more significant and important than the means by which these surprising results are accomplished.

For we have added neither weight nor complications; we have sacrificed none of the cardinal Vim virtues.

We have simply given the new Vim a patented and especially designed system of duplex parts, and two carburetors, each independent of the other and subject to the operator's control.

Thus is produced the extraordinary power and speed; thus the Extreme High Speed Vim is placed head and shoulders above all other marine motors.

If you have a speed boat, you should write at once for the particulars about this wonderful engine.

And whatever type of boat you own, you will find—if you get the literature—there is a Vim motor, exactly suited, in power and weight, to your requirements.

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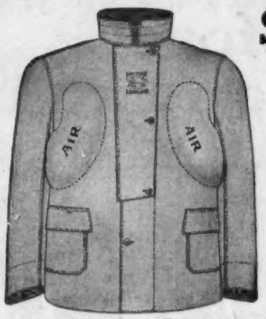

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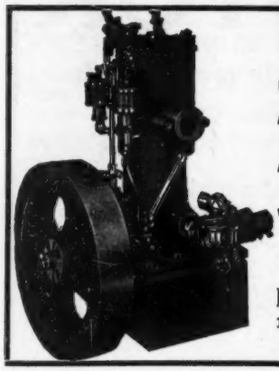

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Diameters		
5-inch	6-inch	8-inch
$15.00	$20.00	$25.00

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Taylor Instrument Companies
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The Use and Abuse of Sails

(Continued from page 416.)

It is up to the yachtsman to preserve this shape by properly hoisting the sail and not hauling it out too hard.

If possible, select a dry, mild day to bend your sail, and when you have it all bent hoist it up not too hard, but properly peaked up, and let it flutter in the wind. This will stretch the sail quite a little and will allow it to be hauled out even more than when first bent. If it is not blowing too hard it would help work the sail into good shape to go out and sail around for an hour or two, but don't, if you can help it, take a brand new sail out in a hard blow, and, above all, do not reef it until you have used it a few times, so the sail will not be unduly stretched at any one point. The outer reef cringle should not be stretched too hard; and yet to be a good sail it must be pulled, so that the cloth when the reef points are knotted lies smooth and flat and does not show corrugations at each nettle. As the sailmakers say, it should only be hauled "hand taut"—that is, hand taut when the boat lies at anchor head to the wind; but in actual practice in a breeze of wind you can hook a handy billy or watch tackle onto it and let all hands and the cook of the average lady-handed amateur crew tail on; and with the yacht fogging along, scuppers under and her decks an angle of 45 degrees, you will only get that windbag out to an equivalent of the hand-taut mark of the sailmakers' ideas. In fact, with amateur crews I generally haul out the outer cringle first, coaster style, and then it is far easier to hang on around the mast and stretch the foot taut by hauling the tack in. Never sail any length of time with only a few of the reef points tied down, as it stretches the sail out of shape; but even if finger nails are busted and wet knuckles skinned on the jack stay, keep at it until all the points are tied down. New skin will grow on knuckles, but the sail may be permanently bagged by such treatment.

When you come to anchor after a day's sailing, it is good for the sail to slack up on the peak and clew, as it allows the sail to come back after the stretching it has received; and as the night dew comes on the sail, by being unlashed, can come and go as the canvas gets wet and dries out.

One can readily see by the shadows on a sail any imperfections in its draft. On a good-setting sail the shadows cut a clean, true curve from peak to tack, more or less rounding, according to the fullness or flatness of the sail. When the peak is not properly hoisted up the weight of the boom pulls a ridge through the body of the sail from the throat to the clew, and the shadow plainly shows up this ridge.

This hard ridge is not as common an evil now that racing boats have come to the use of wire rope for halyards, but even with them an experienced racing man sets his sails and then goes out and sails around a while before the starting gun goes for a race. Shortly before this signal you will see the boat luff up into the wind and all hands swig up any slack that may have come with the drying and stretching of the ropes and canvas.

(To be continued.)

1910 Speed Motor Canoe $110 Complete

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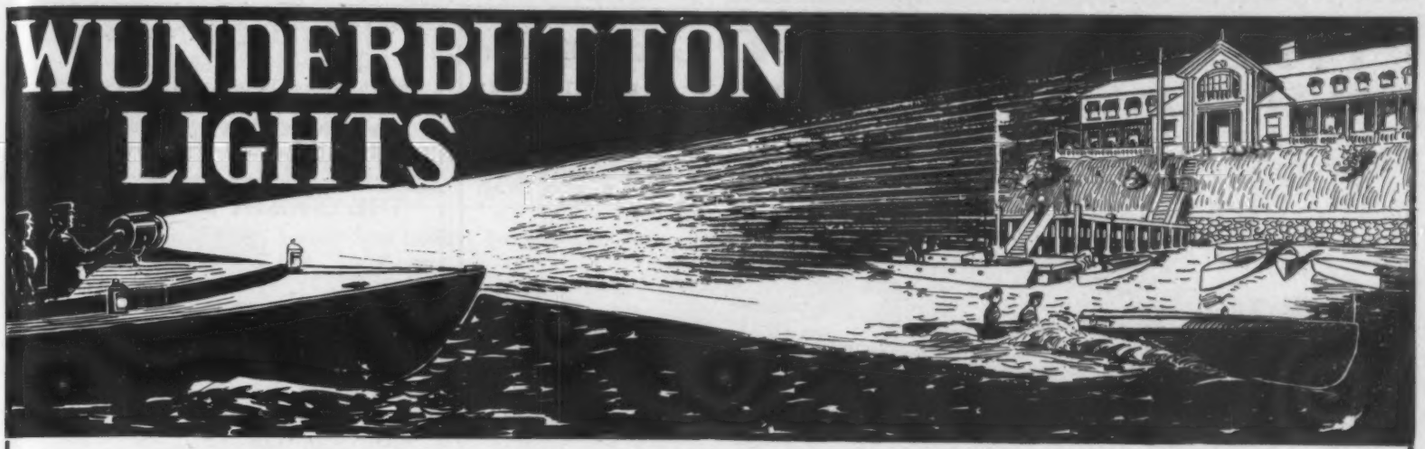
WUNDERBUTTON LIGHTS



ON YOUR MOTOR BOAT

WILL CUT DOWN YOUR GAS CONSUMPTION AND INCREASE THE CANDLEPOWER OF YOUR LIGHTS

The WUNDERBUTTON consists of a simple brass burner, instantly interchangeable without any alteration with any acetylene tip, and a small white button 7/8 of an inch in diameter. This burner, consuming gas at a maximum rate of one-quarter foot per hour, produces the most powerful light ever obtained from the use of acetylene gas.

The WUNDERBUTTON can be used in any form of searchlight, bow or side light, in connection with any acetylene gas tank system.

If you are now using a fan-tail burner in your searchlight, consuming one foot of gas per hour and producing 38 candlepower, the WUNDERBUTTON will cut down your gas consumption by 75 per cent. and produce a 100-candlepower light. If your fish-tail burner has been a ½-foot burner, you will reduce your gas consumption by 50 per cent.

To you, Mr. Motor Boat Owner, this means that you can carry a gas tank of one-half the size which you had hitherto considered necessary for effective service, or your present gas-tank capacity will last twice as long. All this convenience and economy for the small cost of a WUNDERBUTTON burner. The WUNDERBUTTON light does not flicker. It is pure white, steady as sunshine, and will project its beams from a searchlight to a distance of 1,200 feet. The gas can be turned down, but the burner can't clog—it won't crack the reflector, and can't consume more than one-quarter foot of gas per hour.

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WE make Loving Cups and Trophies in Gold, Sterling Silver, High-grade Silver Plate, Pewter, "Goldyn-Bronz" and Verde-Antique.

WE have cups appropriate in design for every sport, be it Yachting, Racing, Track, Motor, Aviation or other meet.

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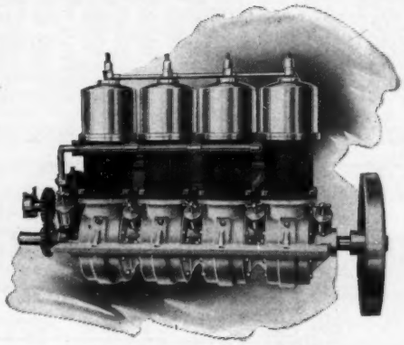

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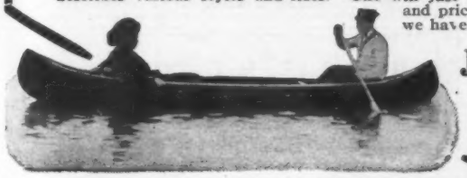

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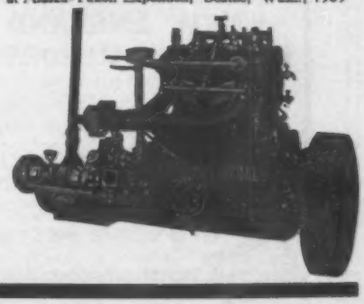

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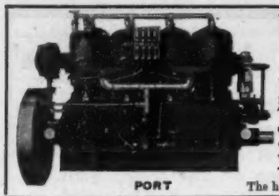
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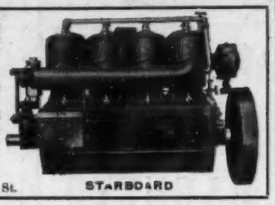
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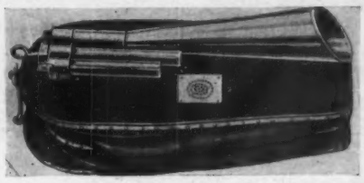

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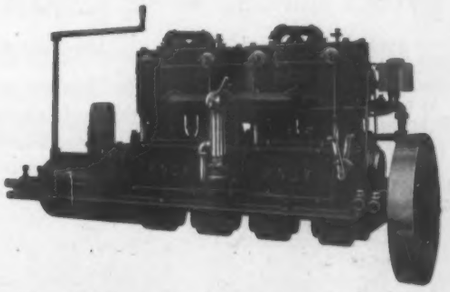

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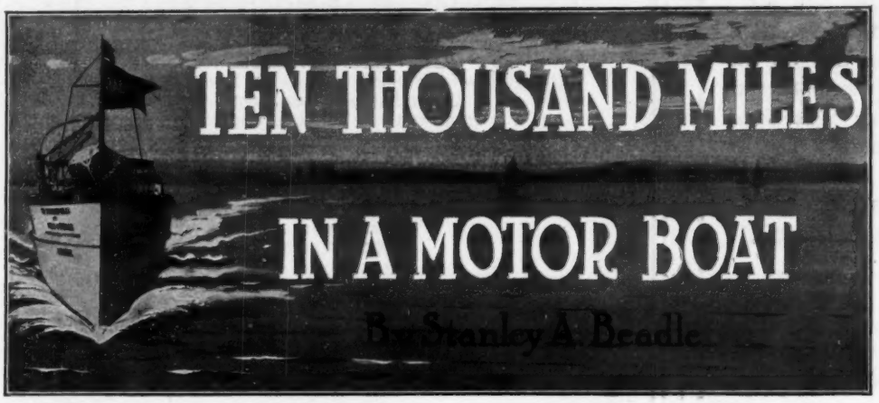

DOWN THE MISSISSIPPI

STANLEY BEADLE MAKING TRIP IN HIS YACHT.

Left Michigan, November 27 and Is Now Headed for New Orleans—Ice Gorges Nearly Destroy His Little Boat.

Stanley A. Beadle, of New York City, associate editor of *The Field and Stream*, arrived in St. Louis last night aboard his yacht on a record-breaking 10,000-mile trip by water down the Mississippi to the Gulf and around by way of the Atlantic to his starting point. He left on November 27 and expects to steam into that harbor again before the summer closes.

His five-ton yacht is anchored under the Eads Bridge, and its owner will remain in St. Louis about ten days before continuing on his voyage down the river to New Orleans. With Beadle are George L. James of Cleveland and Emil Fischer of Chautauqua, Ill.

Beadle was caught in the recent ice gorges in the Mississippi and his boat swamped. For nearly two months he lay on the bank near Chautauqua waiting for the ice to pass and repairing his boat, which had become injured by the gorges. He arrived at Chautauqua on December 10, by way of Grafton and Peoria, having left Chicago by way of the Illinois River on December 1, last.

His was the last boat to pass the locks of the Illinois and Michigan Canal for the winter season. Beadle was the guest of a banquet at Peoria on December 5, given by the Illinois Valley Yacht Club of that city.

THE above narrative of a trip from Michigan, over to Chicago, down the Illinois-Michigan Canal, Illinois River and the Mississippi, to New Orleans; skirting the Gulf Coast to the Florida keys; along up the Atlantic seaboard; up the St. Lawrence River and through the Great Lakes back to the starting point will chronicle the history of what will be the longest and most interesting trip ever made in a small power cruiser. This twelve-month serial began in the March issue of

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"America's Magazine for Sportsmen"

¶ This is a series of articles that you, as an enthusiastic yachtsman, cannot afford to miss, and at the same time it will acquaint you with the very finest magazine devoted to the great outdoors. To all readers of "Yachting" desiring to get this series, which will run through the entire coming year, we will make

A SPECIAL OFFER:—Send us $1.50, (regular subscription price) and we will commence your subscription with the May issue and send you, free of charge, copies of the March and April issues containing the first two installments of this story. Or we will send FIELD AND STREAM for 3 months, beginning with the March issue, for 25c. ($1.50 a year; 15c. the copy on all news-stands.)

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and last year's mushroom, chain and buoy are as good as new.

Perhaps you are installing a larger reverse gear, a different ignition or lubricating system, and, as a result, have on your hands a good gear, some coils, oilers, and grease cups that are just what some other fellow would be glad to have, but which are only taking up space in your locker, and becoming more worthless every month you hold on to them.

There are lots of you boat-owners who have outgrown some perfectly good equipment, which may just as well be sold and the proceeds applied toward the purchase of a new outfit.

Advertise these in our For Sale Department, being specific as to dimensions, make and other details, where and when they may be inspected, and the price that you want for them, and see how many people, of whom you never knew, are anxious to secure them.

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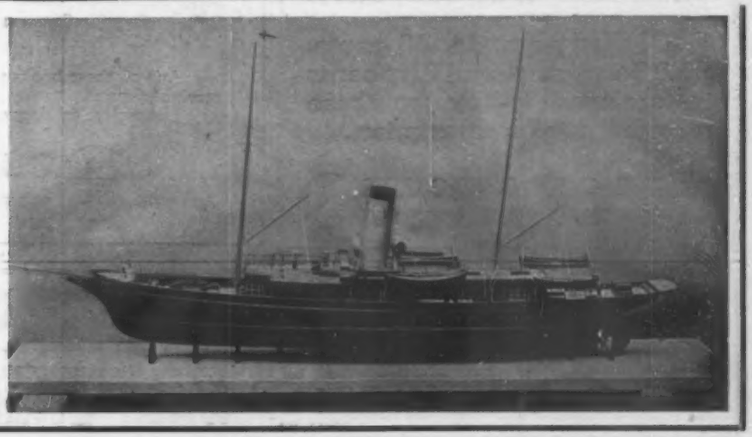

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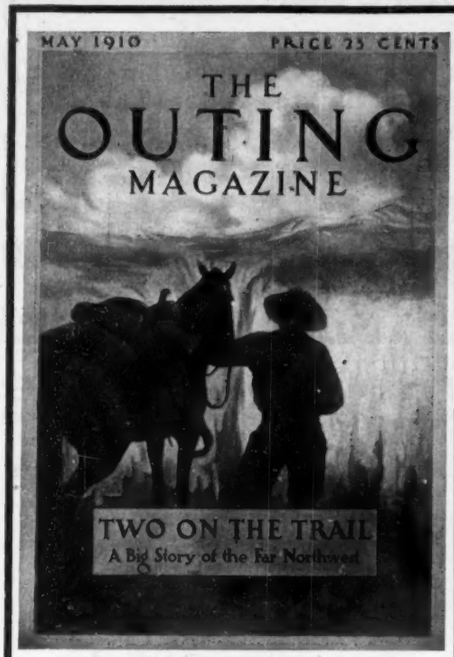

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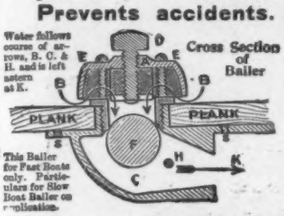
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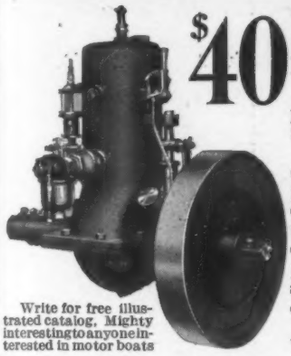

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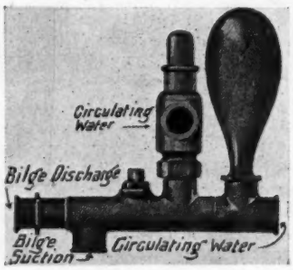

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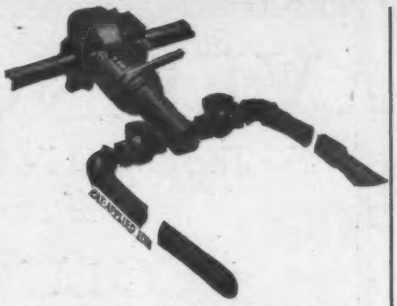

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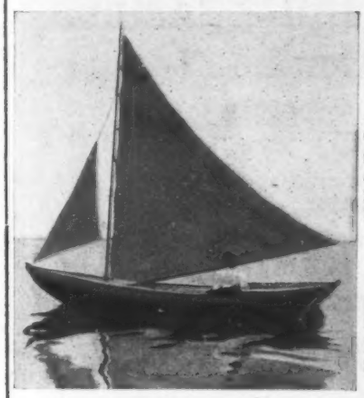

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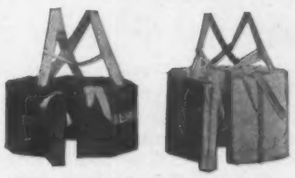

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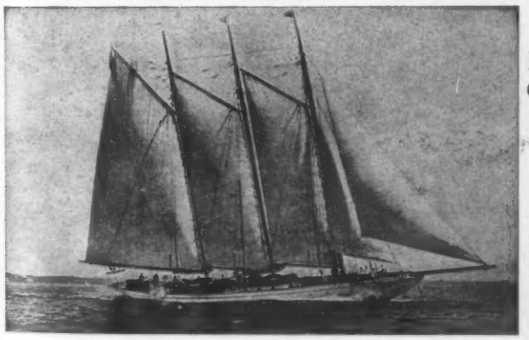

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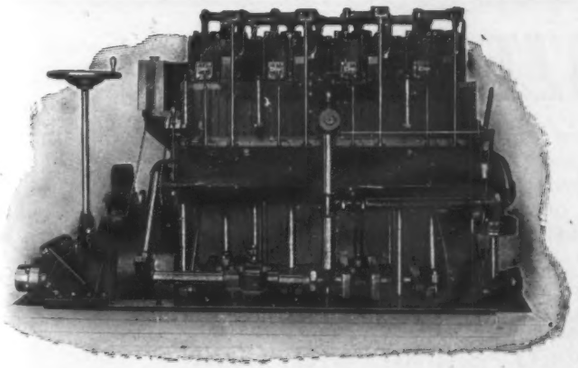

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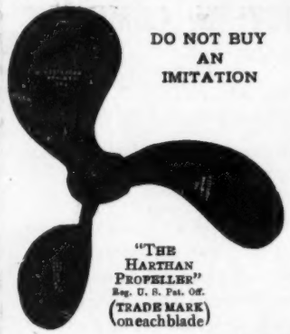

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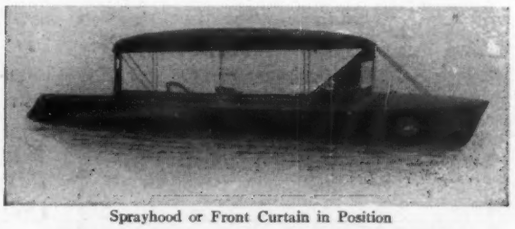

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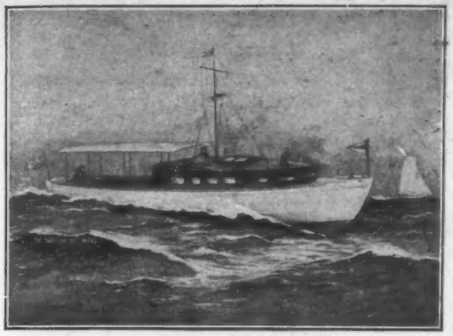

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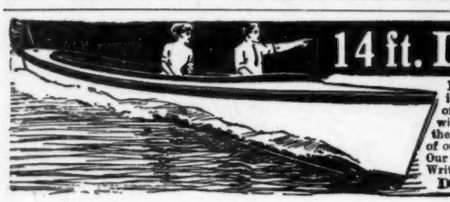

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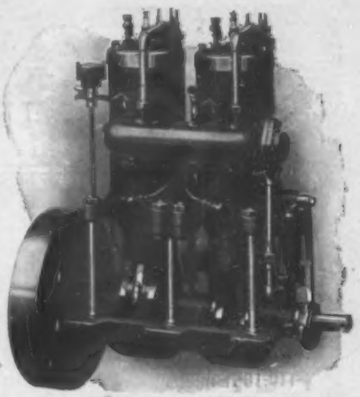

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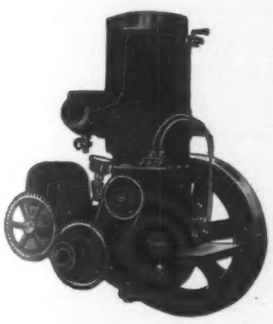

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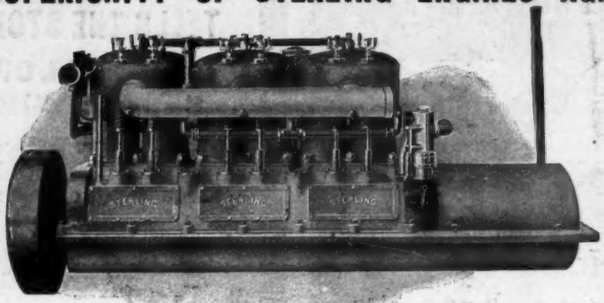
STERLINGS WIN

PALM BEACH EVENTS

ENDURANCE AND SUPERIORITY OF STERLING ENGINES AGAIN DEMONSTRATED

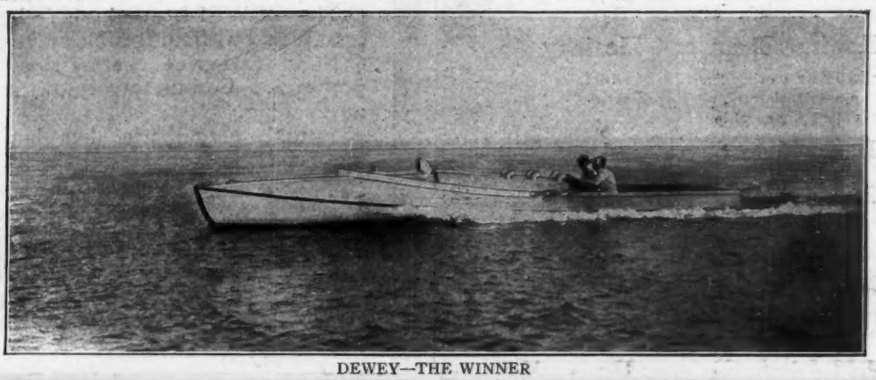
THE "Dewey," powered with a 45-65 H. P. Sterling engine, at Palm Beach, Florida, March 19, won the longest endurance race ever held for speed boats, carrying with it the largest purse ever contested for, $2500,00 in gold; also $200.00, the aggregate sum received as entrance money, besides a handsome cup; The contest was 23 times around a 5.2-mile course, a total distance of 119.18 statute miles, having 92 turns, showing an average speed of 25 miles per hour.



THE "Courier II" March 13 made the fastest time ever made by a motor boat at Palm Beach, Florida. The "Courier II" finished first in the speed record trial, which means six one-mile races. She was, however, disqualified for making greater speed in a later race. Powered with a 240 H. P. Sterling racing engine, the "Courier II" was unofficially timed, doing 35.73 miles per hour.

STERLINGS WON AT PALM BEACH 1909

STERLINGS WON AT PALM BEACH 1910



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